Smithsonian

November 1996

"Red, Hot & Blue: A Salute to American Musicals" (p. 46)

Different Shape

$20,295

MERCURY SABLE SEDAN

Choosing between a sedan and wagon used to be so simple. You'd choose the sedan if yo wanted style. The wagon if you wanted more room. That is, until Mercury came up with the stylish Sable Wagon and the roomy Sable Sedan. So, to make things easier, we priced both innovative shapes starting at $20,295.* Your choice. Sedan or wagon. Same price

Ford Credit

*Starting at $20,295. 1997 Sable GS Sedan or Wagon with PEP 450A. Includes 3.0L V-6 engine, automatic transmission, six-passenger seating, speed control, and power door locks. As shown **$20,610**. 1997 Sable GS Sedan or Wagon with PEP 450A with painted aluminum wheels. MSRP, tax, title extra. **Under normal driving conditions with routine fluid/filter changes.

Same Figure.

$20,295

MERCURY SABLE WAGON

With premium touches like triple door seals for a quiet ride. And the ability to go 00,000 miles before the first scheduled tune-up.** Sable Sedan. Or Sable Wagon. Either way, you can't go wrong. To help figure out which shape is right for you, call **1 800 446-8888** for a free brochure.

http://www.mercuryvehicles.com

Mercury

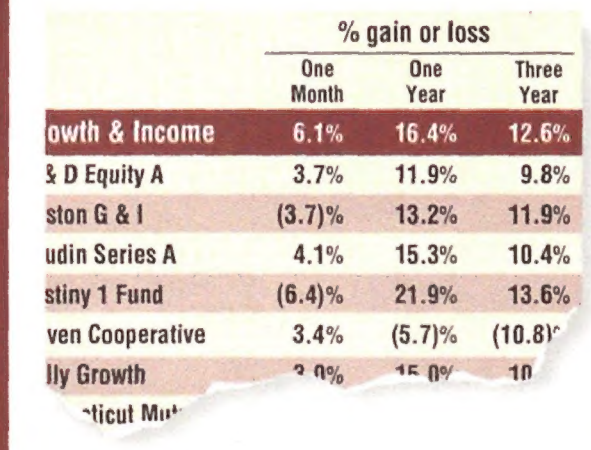
IMAGINE YOURSELF
IN A MERCURY

you judge

mutual funds

by a

percentage.



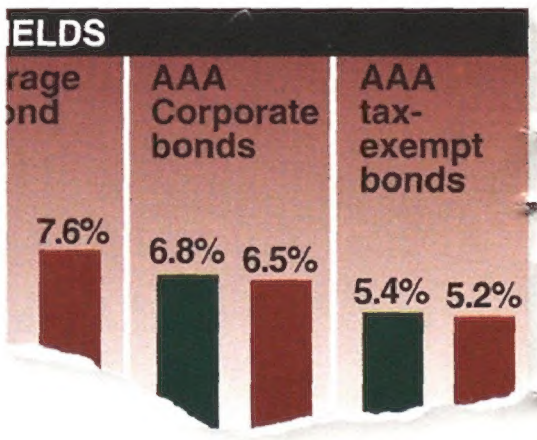
	% gain or loss		
	One Month	One Year	Three Year
owth & Income	6.1%	16.4%	12.6%
& D Equity A	3.7%	11.9%	9.8%
ston G & I	(3.7)%	13.2%	11.9%
udin Series A	4.1%	15.3%	10.4%
stiny 1 Fund	(6.4)%	21.9%	13.6%
ven Cooperative	3.4%	(5.7)%	(10.8)%
lly Growth	3.0%	15.0%	10
ticut Mu			

you judge

bonds

by a

percentage.



you judge

CDs

by a

percentage.

Prudential Securities

KNOWING THE INVESTOR℠

NOW YOU CAN KNOW HOW YOUR PORTFOLIO IS REALLY DOING, NOT JUST WHAT THE ACCOUNT BALANCE IS. PRUDENTIAL SECURITIES TRANSLATES YOUR INVESTMENTS' PERFORMANCE INTO A SINGLE PERCENTAGE FIGURE. SO YOU CAN EVALUATE YOUR ENTIRE PORTFOLIO WITH ONE NUMBER, JUST LIKE YOU'RE USED TO SEEING FOR INDIVIDUAL INVESTMENTS.

Prudential Securities' Investment Performance Review.℠

THIS PERFORMANCE MEASUREMENT HELPS DETERMINE IF YOUR INVESTMENTS ARE MEETING YOUR FINANCIAL GOALS. YOU'LL RECEIVE THIS DETAILED INFORMATION ANNUALLY, WITH YOUR YEAR-END STATEMENT.

IT'S ONE MORE WAY WE'RE TURNING KNOWLEDGE OF THE INVESTOR INTO ACTION. FOR MORE INFORMATION, CALL YOUR FINANCIAL ADVISOR OR 1-800-654-5454, EXT. 200 TODAY.

(These hypothetical examples are provided for informational purposes only. They are not intended to represent any specific investments, and are not indicative of past, present, or future performance.)

so why aren't you judging your own portfolio that way?

Maturity	Rate	APY%
6 months	5.05%	5.11%
12 months	5.15%	5.15%
2 years	5.45%	5.45%
3 years	5.60%	5.60%
5 years	6.10%	

http://www.prusec.com

©11/96 Prudential Securities Incorporated. Member SIPC

200MHz.

8X CD-ROM.

3.0GB.

101.9 FM.

Designed for
Microsoft
Windows 95

Introducing the new Infinia with InTouch.

Tune in to Infinia,™ the new high-performance home PC from Toshiba that lets you move from function to function with the touch of a button. It's designed to be right at home in your home – from its easy-to-use features to its sleek midnight-gray design. Then, there's the InTouch™ Module. A remarkable new device which makes computing easier than ever before. With just a button, for example, you can go from CD, to TV, to radio, to your phone or answering machine. It's that simple. Trade stocks online while you listen to the radio. Update your sales database as you watch the big game on TV or talk to your dad in another city on speakerphone. A special sleep button puts your Infinia into an energy-conserving doze mode. Hit it again and Instant On brings it right back to where you left off. Plus, it's from Toshiba, the number one name in portable computers. To learn more about the Infinia, visit the Toshiba website at http://computers.toshiba.com or call us toll free anytime at 1-800-457-7777.

Jump from CD to TV to radio to answering machine, each with the touch of a button.

8X CD-ROM, 3D video and beautiful stereo sound enhance multimedia performance.

Infinia is supported by Toshiba's InTouch Center every day, 24 hours-a-day.

intel inside pentium PROCESSOR

Infinia offers a fast 200MHz Pentium processor, and huge 3.0GB hard drive.

When you're ready for a different computer.

In Touch with Tomorrow
TOSHIBA

©1996 Toshiba America Information Systems, Inc. Infinia is a trademark of Toshiba America Information Systems, Inc. The model shown is the Infinia 7200 with an optional monitor. Some specifications vary by model. All specifications and availability are subject to change. All products indicated by trademark symbols are trademarked and/or registered by their respective companies. Intel Inside and Pentium Processor Logos are trademarks of Intel Corporation.

Smithsonian *features*

November 1996
Volume 27, Number 8

76

46 **'Red, Hot & Blue: A Salute to American Musicals'**
Give your regards to Broadway—and Hollywood—at the National Portrait Gallery's boffo show of shows
By Donald Dale Jackson

60 **Into the Sierra Madre in search of a lost people**
Combing Mexico for one ancient culture, now known as the Anasazi, Carl Lumholtz found remnants of another
By David Roberts, photographs by Terrence Moore

76 **'It's all pure structure, like a dinosaur skeleton'**
Flamboyant yet spare, the buildings of architect Santiago Calatrava are the rage of Europe, and soon . . . Milwaukee
By Doug Stewart

95 **Stitches in time: heirloom quilts at the Renwick Gallery**
A display of antebellum bedcovers of calico and chintz provides a look at the most prized textiles of the era

142

102 **Let them eat *fromage!***
In 250 carefully crafted, jealously guarded varieties, France's artisanal farm cheeses are an upscale treat
By Rudolph Chelminski, photographs by Kay Chernush

114 **Keith Robinson: Hawaii's botanical Robin Hood**
Collecting native plants in the wild to grow on his Kauai reserve, he hopes to save the islands' ancestral flora
By Adele Conover, photographs by Gary Braasch

126 **California geneticists are going to the dogs**
A study of a Border collie-Newfoundland pair and their progeny may have results beneficial to your pet and you
By Donald McCaig

142 **Vintage pickups: 'American sculpture—on wheels'**
With their sleek, curving lines and shiny chrome fittings, these icons of the byways are traffic-stopping works of art
Photographs by William Bennett Seitz

150 **The Know-Nothings knew how to win . . . for a while**
In the 1850s, an anti-immigrant third party threatened to take its candidates all the way to the White House
By Robert Wernick

126

NO MATTER HOW YOU SPELL THEM, THEY ALL START WITH TWA.

TWA can now get you to over ninety great cities in twelve exciting countries. So where in the world do you start? With a quick call to your travel agent or TWA at 1-800-221-2000. Then you could be on your way to LAX, JFK or anyplace in between. And remember, you're always welcome to stop by our website at http://www.twa.com.

UNITED STATES EUROPE MEXICO

TWA
TRANS WORLD AIRLINES
WE'RE UP TO SOMETHING GOOD.®

MIDDLE EAST CANADA CARIBBEAN

If sonic technology can unearth

DINOSAURS

TRAPPED SINCE THE BEGINNING OF TIME,

why not use it to dislodge

THOSE BBQ RIBS

FROM THE OTHER NIGHT?

When paleontologists heard sonic technology could locate fossils, they threw down their picks and jumped for joy. But when dental scientists discovered that sonic technology could reach plaque bacteria, they were even more ecstatic. Introducing **sonicare**® *plus*.™ Its sonic frequency brushing removes plaque bacteria where they lurk. Actually reversing gingivitis.[1] And even though **sonicare** *plus* moves at 31,000 brush strokes a minute, it's as gentle as a soft manual brush.[2] It works so well, in fact, if you don't have a better checkup after ninety days, we'll refund your money. (That ought to make your manual brush extinct in no time.)

For more information, call toll-free 1 800 SONICARE (1-800-766-4227) or check out our web site at www.sonicare.com.

sonicare

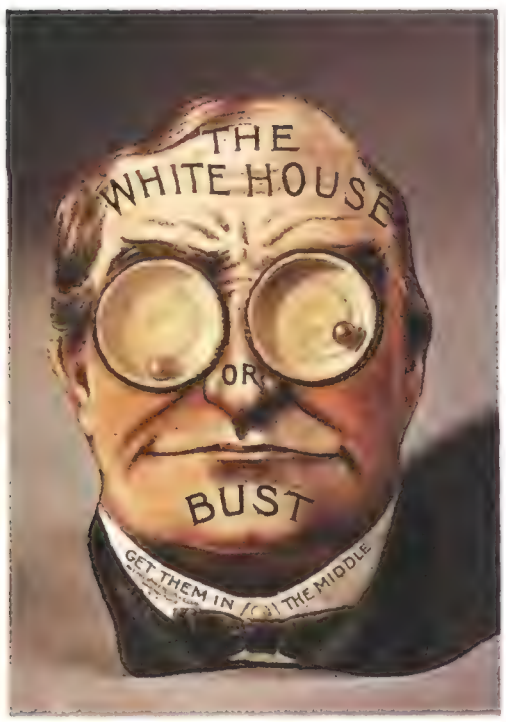
Amazing, Isn't It?

Smithsonian

November 1996
Volume 27, Number 8

departments

Cover



40

Cover:
With ballroom dancing, ballet, tap and more, Fred Astaire (center), Agnes de Mille (left) and Gene Kelly (top right) brought spectacular choreography to American musicals; Mary Martin (bottom right) added the fun (p. 46)
For picture credits, see p. 34

22 *Letters to the Editor*
34 *Picture Credits*
176 *Additional Sources*
178 *Smithsonian Study Tours and Seminars*

18 **Smithsonian Perspectives**
The Institution's evolving character as the "people's place" has won it a cherished role in our national life
By Secretary Heyman

28 **The Object at Hand**
A horse that carried Phil Sheridan through 45 Civil War engagements helped Abraham Lincoln's campaign, too
By John Fleischman

32 **Phenomena, Comment and Notes**
A new report reveals worrisome gaps in our knowledge of science and a possible means of correcting them
By John P. Wiley jr.

36 **Around the Mall and Beyond**
Hands-on displays at the National Air and Space Museum's new gallery demonstrate the physics—and fun—of flight
By Michael Kernan

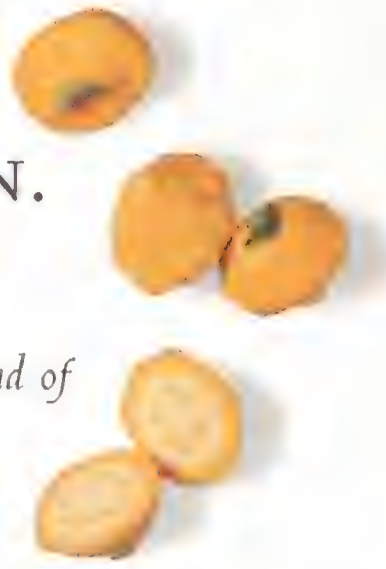
40 **Smithsonian Highlights: a calendar of events**
43 *Highlights Continued:* "Image of the President: Photographs by George Tames, 1944-1974" (through September 1, 1997)

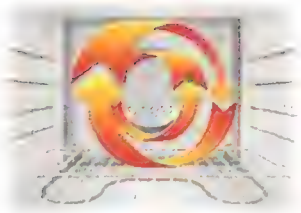
160 **Book Reviews**
SMITHSONIAN's Notable Books for Children, 1996

180 **When your toast starts talking to you . . .**
By Bruce Watson

180

Introducing a Free-Standing Range That Comes With an Outstanding Reputation.

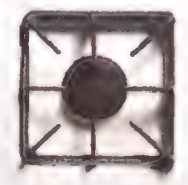




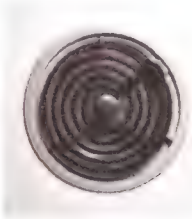
DUAL MODE CONVECTION

Jenn-Air is delighted to make America's most preferred brand of cooking appliances. But as any great cook will tell you, when you have that kind of reputation, every time you create something new it has to be outstanding.

Presenting Jenn-Air's newest creation: The Free-Standing Range. You can have one in gas or electric. It can slide in or stand alone. It comes with or without convection. Plus, the convection models have the largest useable oven capacity in the industry. And since it's a Jenn-Air, it looks as beautiful as it cooks.*



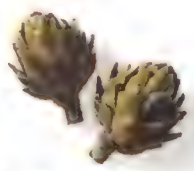
Gas



Coil

If you would like to find out more about our new line of ranges and the name of the dealer nearest you, please call us at 1-800-JENN-AIR.

Not only are they outstanding, now they're free-standing.



JENN-AIR

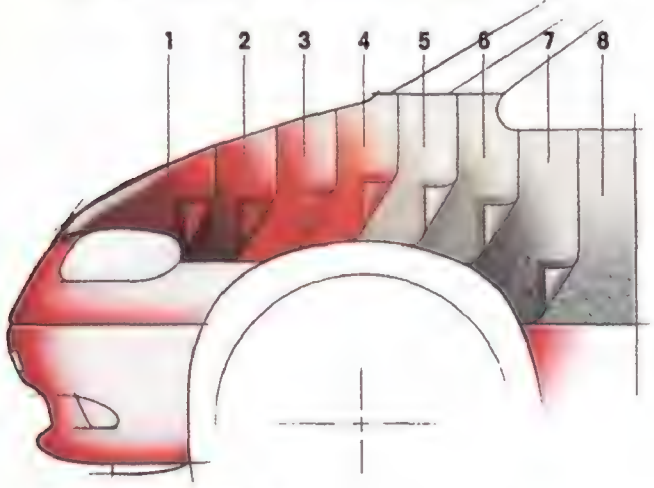
THE SIGN OF A GREAT COOK®.

JENN-AIR FCE70610 30" Electric Free-Standing Range - Ceran Cooking Surface

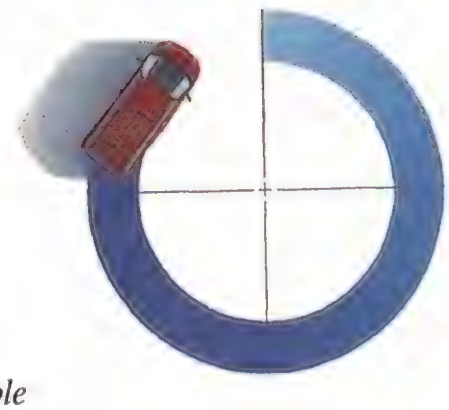
*Based on 30" electric free-standing ranges.

©1996 Jenn-Air Company

To keep Caravan looking good at any angle, we use a highly protective, eight-step finishing process that includes a full-body powdered anti-chip primer coat and two separate clear coat applications.



Available anti-lock brakes and traction control give you extra control when braking and steering on slick surfaces.



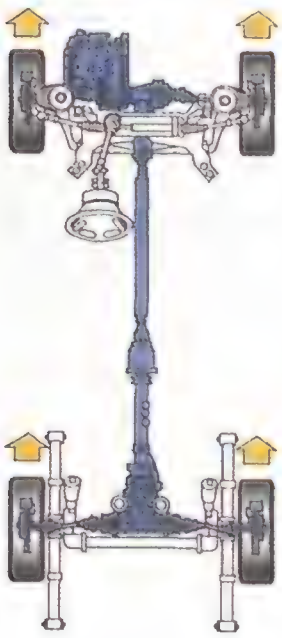
A remarkably tight turning circle makes parking easy.

With 12 convenien storage bins, grabbing a tissue is not an issue.

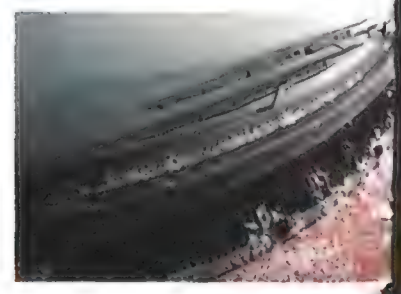
Features you're sure to appreciate...

Caravan's available remote keyless entry works up to 23 feet away. And it includes a personal alarm system that can also be activated by remote control.

Caravan's available all-wheel-drive system features an inter-axle viscous coupling that automatically gives more torque to the rear wheels as needed.



The benefits are clear when you opt for heating elements under the front and rear wipers that help melt away ice and snow.



When we redesigned Caravan we rounded the corners for a more aerodynamic shape, and still found a way to get 32 more cubic feet of room inside.

Gloves, maps and such can go in Caravan's tilt-out glove box. And some models have handy door pockets for additional storage.

To keep things nice and quiet, we offer carpeting that's backed by three layers of sound insulation.

Caravan not only offers a convenient driver's side sliding door, it's cleverly designed to hold both sliding doors open ... even when you're parked on the steepest of hills.

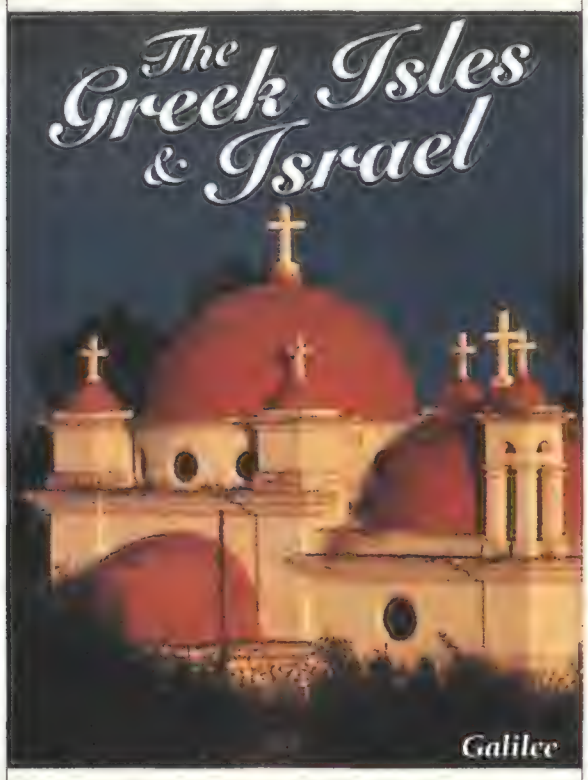
...if you're so inclined.

Dodge Caravan is backed by our Customer One Care™ 3-year or 36,000-mile bumper-to-bumper warranty and 3/36 Roadside Assistance. For still more information, call 1-800-4-A-DODGE or visit our Web site at http://www.4adodge.com*

**See limited warranty & restrictions at your dealer. Excludes normal maintenance and wear items.*

Caravan The New Dodge

SILVERWINGSPLUS
UNITED AIRLINES
and Renaissance Cruises present



16-Day CruiseTour Vacation
FROM ONLY $2,499 PER GUEST
INCLUDING AIR & HOTELS!
Save $3,000 per cabin!

Featuring:
A spectacular 10-day cruise aboard the *Aegean I*, visiting some of the world's most exotic ports: Athens, Ashdod, Haifa, Limassol, Antalya, Rhodes, Kusadasi and Istanbul!

FREE: Round-trip air from New York (JFK)

FREE: 4 nights at luxury hotels in Athens and Istanbul

FREE! Silver Wings Plus Lifetime Membership

CRUISES Renaissance Cruises More Vacation For Less!

Exclusive 1997 Sail Dates
May 21 & 31
June 20

HURRY! Offer expires 12/31/96!

To book your CruiseTour, see your travel agent or call Renaissance Cruises at (800) 525-5350.
Specify Offer UWQ08 for this great value!

Smithsonian

SECRETARY OF THE SMITHSONIAN INSTITUTION
I. Michael Heyman

EDITOR
Don Moser

BOARD OF EDITORS
Constance A. Bond
Jim Doherty
Timothy Foote
Marlane A. Liddell
Sally Scott Maran
Edgar Rich, Pictures
John P. Wiley jr.

ASSOCIATE EDITORS
Diane M. Bolz
Kathleen M. Burke
Suzanne Crawford
Frances R. Glennon
Bruce Hathaway
Beth Py-Lieberman
Lucinda Moore
Ruth Ravenel
Bonnie Stutski, Pictures

ASSISTANT EDITORS
Caneel Cotton, Pictures
Elizabeth J. Erskine
Marian Smith Holmes
Taehee Kim
Karen Larkins
Alison C. McLean
Minna Morse

ARTICLES ASSISTANT
Angela M. Pleasants

RESEARCH ASSISTANTS
Karla A. Henry
Carolyn McGhee

CONTRIBUTING EDITORS
Edwards Park
Bennett Schiff
Nancy Seaman

BOARD OF REGENTS
SMITHSONIAN INSTITUTION
Ex Officio
Chief Justice of the United States, William H. Rehnquist, Chancellor
Vice President of the United States, Albert Gore jr.

Appointed by the President of the Senate
Hon. Thad Cochran
Hon. Daniel P. Moynihan
Hon. Alan K. Simpson

Appointed by the Speaker of the House
Hon. Sam Johnson
Hon. Bob Livingston

Appointed by Joint Resolution of Congress
Hon. Howard H. Baker jr.
Hon. Barber B. Conable jr.
Ms. Anne d'Harnoncourt
Mr. Louis V. Gerstner jr.
Dr. Hanna H. Gray
Dr. Manuel L. Ibáñez
Dr. Homer A. Neal
Mr. Frank A. Shrontz
Mr. Wesley S. Williams jr.

SMITHSONIAN NATIONAL BOARD

Mrs. Jean B. Kilborne, Chairman

Sir Valentine Abdy
Hon. Max N. Berry
Mrs. Laura Lee Blanton
Mrs. John M. Bradley
Mr. Stephen F. Brauer
Mr. Landon T. Clay
Mrs. Dollie Cole
Mr. Peter R. Coneway
Mr. Thomas E. Congdon
Ms. Allison Stacey Cowles
Mr. Frank Arthur Daniels jr.
Ms. Patricia Frost
Ms. Nely Galan
Mr. Bert Getz
Mr. Marion Edwyn Harrison
Mr. Paul Hertelendy
Mrs. Ruth S. Holmberg
Mr. Roger Horchow
Mr. Richard Hunt
Mr. Robert L. James
Mrs. Donald W. Jeffries
Mrs. James Kinnear
Mrs. Marie L. Knowles
Hon. Marc Leland
Mr. Donald G. Lubin
Ms. Elizabeth S. MacMillan
Mrs. John W. Madigan
Mr. Frank N. Magid
Mrs. John F. Mars
Mr. Michael P. McBride
Mrs. Nan Tucker McEvoy
Mr. Kenneth B. Miller
Hon. Norman Y. Mineta
Mr. Thomas D. Mullins
Mr. Rupert Murdoch
Mr. John N. Nordstrom
Mrs. Joan Noto
Mrs. Frank Piasecki
Mr. Heinz C. Prechter
Mr. David S. Purvis
Baron Eric de Rothschild
Mr. Clive Runnells
Mr. A. R. Sanchez
Hon. Alan K. Simpson
Ms. Kathy Daubert Smith
Mr. Kenneth L. Smith
Mr. Kelso F. Sutton
Mr. Jeffrey N. Watanabe
Mr. Frank A. Weil
Mrs. Nancy Brown Wellin

Honorary Members
Mr. Robert McC. Adams
Mr. William S. Anderson
Mr. Richard P. Cooley
Mr. Joseph F. Cullman III
Mr. Charles D. Dickey jr.
Hon. Leonard K. Firestone
Mr. Alfred C. Glassell jr.
Mr. W. L. Hadley Griffin
Hon. William A. Hewitt
Hon. George C. McGhee
Justice Sandra D. O'Connor
Mr. S. Dillon Ripley
Mr. Francis C. Rooney jr.
Mr. Wilbur L. Ross jr.
Mr. Lloyd G. Schermer
Mrs. Gay F. Wray

"Coldwater Creek? listen, I'm stuck in this elevator between housewares and lingerie, with 6 other people (watch the umbrella, please), now I've got your catalog (oops, sorry, wrong briefcase) and all I want is a couple terrific gifts, so could you send (you can ask about the necklace later!) that great moose sweater (do they what!? have 5 more?) in XL (no grabbing the catalog, puuleeze!) for Christmas, (look, that's my shoulder you're leaning on!) hold on, we're moving! (hit ground floor would you?) Thanks Coldwater, I'm outta here... (hey, the catalog's free, how 'bout getting your own?)"

Always call us first.

When you need something out-of-the-ordinary, there's only one place to find it. One place that'll go the extra mile to get it there. Wonderfully wearable clothing, accessories and jewelry to pique your love of fashion and style, distinctive items for the home that never show up in department stores. Gifts you simply won't find anywhere else. We'll take care of the details, do cartwheels to make sure your order gets where it needs to go and arrives when it's supposed to. So call us. Then party. Deck the halls. (And stay out of elevators.)

Coldwater Creek®
THE NATURAL WAY TO SHOP™

CALL TODAY FOR A FREE CATALOG 1-800-262-0040

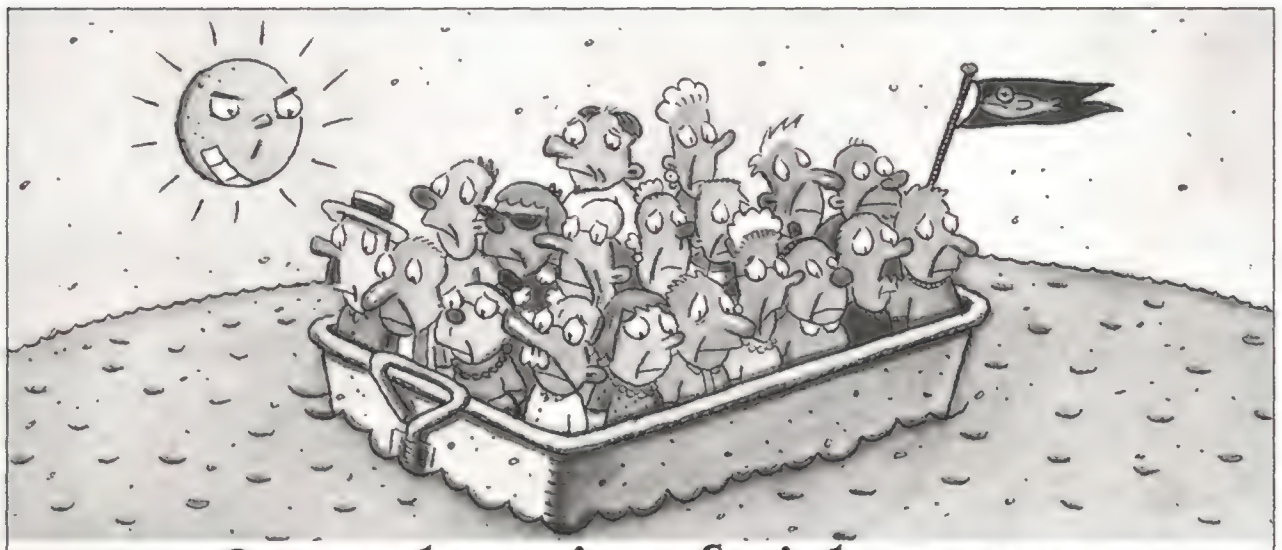
Ad ADSC

In 1946, more people owned one than a television.

Presenting the 50th Anniversary Century Ball-point Pen, available for a limited time.

Fifty years ago. A.T. Cross introduced the Century® design. With a slim, sleek barrel, it changed the way America wrote. This year, Cross celebrates with a most impressive 12 kt. gold filled ball-point pen. This commemorative edition is now found in a collectible tin box at fine stores, but only for a limited time. $50. manufacturer's suggested retail price.

CROSS® SINCE 1846



On our luxurious freighter, our passengers don't travel like freight.

Tired of overcrowded mass market cruises? Then come aboard the M/V AMERICANA — a luxury working container ship that has been designed to pamper just 88 passengers.

Spacious, well-appointed suites. Magnificent international gourmet dining. World-class Norwegian service. The M/V AMERICANA rivals the quality of the world's great hotels. Voyages leave New Orleans and sail through the Caribbean and along the coast of South America about every 47/48 days. Shorter-segment Fly/Sail Programs are also available.

For information including a full-color brochure, rates and schedules, call your travel agent or Ivaran Lines. 201-798-5656

IVARAN Lines
Newport Financial Center
111 Pavonia Ave., Jersey City, NJ 07310

Norwegian Registry

2656

Smithsonian

Editorial and Publishing offices are at 900 Jefferson Drive, SW, Rm 1301, Washington, D.C. 20560

Subscriptions: 1-800-766-2149

PUBLISHER
Ronald C. Walker
Michelle A. McMahon, Executive Assistant

ADMINISTRATION
Carey O. Randall, Associate Publisher
Mary Ellen Bobb, Business Director
Valerie Martin, Business Manager

CIRCULATION
Liberta Abbondante, Director
Carolyn Topak, Marketing Director
Elizabeth Hopkins, Planning Director
Andrea Sole, Fulfillment Director

PRODUCTION
E. Cherry Doyle, Director
Greg Williams, Quality Manager
Briggs S. Cunningham, Editorial

ADVERTISING
David C. Cator, Director
James J. Sullivan, Associate Director

NEW YORK
420 Lexington Avenue
Suite 1945, New York, NY 10170-0084
212-490-2510 FAX: 212-986-4259

ATLANTA
Brown & Company
770-998-2889 FAX: 770-552-8250

CHICAGO
Warden, Kelley, Allen & Opfer
312-236-2757 FAX: 312-236-7802

DETROIT
Hartle & Heth Inc.
810-642-7273 FAX: 810-642-1321

LOS ANGELES
Charles E. Schmuck & Associates
310-478-3833 FAX: 310-478-1633

PHILADELPHIA
William H. Dixon Associates
610-696-2807 FAX: 610-692-5177

SAN FRANCISCO
Charles E. Schmuck & Associates
415-986-1945 FAX: 415-398-4156

TOKYO
International Communications Inc.
81-33-593-1441 FAX: 81-33-580-0414

MEXICO
Towmar Representaciones Profesionales
525-395-5888 FAX: 525-395-4985

FOUNDERS
S. Dillon Ripley
Edward K. Thompson

PUBLISHER EMERITUS
Joseph J. Bonsignore

This is when Roger told our parents not to count on him for any financial support.

Don't let this happen to you. To prepare for tomorrow, plan with Alliance today.

You know that you should make financial preparations for the future. And you might not have as much time or information as you'd like.

Your Financial Adviser should be an integral part of your investment planning, providing sound advice and the necessary link between you and Alliance Capital.

Alliance Capital is one of the world's largest investment managers. With more than two million individuals invested in our family of over 120 mutual funds, we have the research capabilities and performance record to help get you from where you are now to where you want to be.

Alliance Capital®

Investing without the Mystery.℠

1-888-AC FUNDS

http://www.alliancecapital.com

Alliance Fund Distributors, Inc. is a member of the NASD.

Secretary Heyman's comments

Smithsonian Perspectives

Over 150 years, the Smithsonian has evolved as a visitor-friendly place that reflects a diverse nation

What a remarkable opportunity I have had in my first years as Secretary not only to join in the celebration of this great Institution's vitality but also to reflect on what we have become at this moment in our history. There are many ways to evaluate the modern Smithsonian: the size and quality of its collections; the scope and effect of its research; and the sweep of exhibitions, publications and programs that serve the millions whose public and private support makes everything that we do possible. But of all that we note and celebrate about the Smithsonian of today, it is the Institution's evolving spirit and character as the "people's place" that I believe has won it a cherished role in the national life.

From our vantage point in the late 20th century, it may be hard to recognize how pioneering the Smithsonian's mandate was at its creation and how far it had to go to reach the scope of its present commitment. Smithson's charge that we dedicate ourselves not only to the increase but the *diffusion* of knowledge came from ideals of the time that knowledge should not be limited to a few.

That idea of public access to education took some time to develop at the Smithsonian. For most of our first 100 years, this was a good place to look at some marvels of nature and culture, but not necessarily to learn much about them. Also, like most museums before the Second World War, our ideas at that time of what was "museum-worthy" for our collections look quite restrictive by today's standards.

As it happened, I showed up in Washington as a young law clerk in the 1950s just as the groundwork was beginning to be laid for the Smithsonian we now know. My vantage point was pretty good, since my wife, Therese, went to work at the Smithsonian's numismatic division during our time here.

The Secretary at the time was Leonard Carmichael, who had arrived in 1953. To see his portrait photograph, taken in 1960 (and reproduced in *The Smithsonian: 150 Years of Adventure, Discovery, and Wonder* by James Conaway), you would never know that within that gentleman in the dark suit beat the heart of a museum revolutionary. Carmichael expanded the program to modernize exhibits, redesigning them as places to excite visitors' imaginations and to impart the knowledge of the curators.

Carmichael also actively supported the campaign to create the Museum of History and Technology (now the National Museum of American History). That museum soon began to symbolize the Smithsonian's growing recognition of its role as a people's museum. Opened one month before the arrival of the next Secretary, S. Dillon Ripley, in 1964, it developed a policy of collecting objects that were not only one-of-a-kind or associated with historic individuals and events, but also those that came directly out of everyday lives. The National Museum of American History became a place where a G.I. might show his grandchild a cot very much like the one he slept on during World War II, and where that grandchild could also see a jacket associated with a beloved television character. History, we were discovering, was about *all* of us.

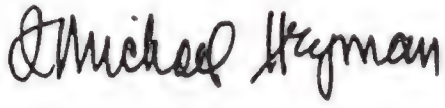
During Ripley's 20 years as Secretary, the modern Smithsonian came into being. He knew that museums had to be about more than preserving the past. He honored the interests, values and needs of Smithsonian visitors. In his time the Festival of American Folklife introduced visitors to the customs, music and energy of peoples around the country and the world. Ripley started this magazine and the membership programs, and put the Carousel on the Mall, where it's a lively attraction.

As Ripley's tenure ended, he foresaw a new era of social responsibility for the Institution, which became the mark of Robert McCormick Adams' decade as Secretary. In the Adams years, more and more Americans from our many cultures could see their achievements represented and their issues addressed at the Smithsonian. The vitality of the American mix came to be reflected in collecting, in exhibitions and programs, and in the composition of the staff.

The Adams years also made the Institution more visitor-oriented, by placing a greater emphasis not only on the curators' messages but on the visitors' responses, as well. The Smithsonian began a new series of interviews with visitors, comment books showed up at the end of exhibitions, and we began to ask ourselves how to involve those represented in our collections and exhibitions in the process of interpretation.

This was the Smithsonian whose guidance I inherited two years ago. I have tried to build upon my predecessors' legacies by focusing on the question of increasing national access to the remarkable collections and expertise we have accumulated over 150 years. It has been my pleasure to see the crowds of Americans at the "America's Smithsonian" tour able to visit *their* Smithsonian without having to travel far from home; and to encourage the development of the electronic Smithsonian to deliver more information to more people.

If there is one moment that has come to symbolize for me the Smithsonian's identity as a people's place it was that perfect late-summer weekend when we held our Birthday Party on the Mall. As one of the performers put it, for a moment Washington felt like an ideal small town, where we all came together in shared curiosity and inspiration. We don't always get it right; but when we do, this is a magical place.



RED LIGHT.

28 g.FAT

One Average Philly Beef Sandwich.

GREEN LIGHT.

5 g.FAT

HEALTHY CHOICE®

Your GREEN LIGHT *to* EAT *what you* LIKE.™

© 1996 ConAgra Inc. http://www.healthychoice.com

IT'S OUR BRIGHTEST, HIGHEST-DEFINITION HOME COMPUTER TO DATE.

©1998 Compaq Computer Corporation. All rights reserved. Compaq registered U.S. Patent and Trademark Office. Presario is a trademark of Compaq Computer Corporation. The Intel Inside logo and Pentium are registered trademarks and the Pentium Processor Logo is a trademark of Intel Corporation. Other products mentioned may be trademarks or registered trademarks of their respective companies. *56Kbps DSVD modem provides the fastest internet access available over standard phone lines.

The Compaq Presario 3000 Series has been getting quite a lot of attention lately. After all, it looks and acts totally unlike other personal computers.

Why? Well, for one, the Presario 3000 Series is among the very first home computers expressly designed for the home. Its revolutionary double-bright flat-panel display, for instance, is integrated with the PC so the two exist as one. The result is a computer that takes up 40% less space than other personal computers. What's more, its elegant design means it's perfect for any room in the house.

The Presario 3000 Series also includes a host of innovations all designed to raise your home computing experience to a new level. Things like a wireless mouse, a 4-Disc Autoload CD changer, JBL Pro speakers for true, high-fidelity sound, Easy Access Buttons at your fingertips to instantly launch your most used applications, and a modem that delivers the fastest Internet access.* Yet, despite its size and depth of features, the Compaq Presario 3000 Series sacrifices none of the performance. A super-fast Pentium® 166MHz processor, 24MB of RAM, 256KB pipeline burst cache, and a 2GB hard drive all combine to make it an extremely powerful desktop.

Needless to say, we think it'll make a brilliant addition to your home. For more information, visit us at www.compaq.com or call 1-800-345-1518.

Power, grace and user-friendliness all rolled into one.
The Compaq Presario 3000 Series.

COMPAQ

Has It Changed Your Life Yet?

Letters to the Editor

Supertwins

We were particularly interested in Donald Dale Jackson's September article on multiple births since we have 13-year-old quintuplets and can relate to most of what he wrote. When Devin, Ian, Shira, Michael and Elliot were a week old, a local television reporter asked us what we were going to do about college educations. My husband, thinking about his five babies (each weighing between 2½ and 3½ pounds) lying in the neonatal intensive care unit, replied that our first priority was to get them home from the hospital.

The first year was difficult, I'll admit, and we wouldn't want to go through it again. But it was worth it to get where we are today, with five healthy, well-adjusted, warm and loving children. We can't imagine the world without them.
Pam and Dan Pisner
Olney, Maryland

We wrestled with thematic versus alliterative names for our triplets. Aside from the obvious Moe, Larry and Curly, our friends suggested Daisy, Rose and Violet; April, May and June; three boys named Sue (with apologies to Johnny Cash), and our favorites: Taco, Nacho and Burrito (for boys) and Tortilla, Margarita and Enchilada (for girls).

We think Charlie (in blue), Flynn (in red) and George (in green) suit our sons (below) just fine.
Sue and Alex Aldrich
Atlanta, Georgia

We loved your great article. Our triplets were born on October 26, 1964, before fertility drugs, sonograms or much information on how to handle multiple births. Fortunately, they were healthy and survived our trial-and-error style.
Helen Friant
Willow Street, Pennsylvania

Society has no obligation to the new culture of multiples. People who voluntarily and freely engage in activities that have onerous consequences for themselves and the rest of us—riding motorcycles without helmets, not wearing seat belts in automobiles or having a large number of babies simultaneously—have no right to assume that society (read "taxpayers") will come to their aid with resources, be they medical, social or financial. What has happened to the doctrine of a person taking responsibility for his actions?
Robert W. Jaross, M.D.
Flintridge, California

Evidently medical doctors are so used to making life-and-death decisions that they now think they can play God with human births as well. Someone should remind them that God created only two. With six billion humans on the planet consuming resources at a rate that forces many to live malnourished lives, the last thing society needs is a means to accelerate births geometrically.
A. Daniel Eliason
Santa Barbara, California

The rights of an individual should not ignore the public good. More people consume more. Society's slogan should be Le Corbusier's observation that "less is more," not "the more the merrier."
Gene Anne Parker
Phoenix, Arizona

My twin sister, Patty Tyler, and I recently celebrated 140 years of living. How times and technology have changed. Our mother never knew she was about to experience a multiple birth, and the attending doctor was stunned to find another baby "in there"! We have loved all of the attention, but we have also contributed data on identical genetic codes to help with scientific research on environmental causes of diseases.
Betty Shafer-Walkowicz
Rochester, New York

I remember the excitement of the Dionne quintuplets' births and all the ensuing publicity. I was fortunate to see them during a 1941 visit to Callender, Ontario. One footnote to that visit: Mrs. Dionne sat in a rocking chair on the front porch with all of her other children around her. For 25 cents—a great sum back then—you could buy an audience with and the autograph of the children's father, who sat behind a velvet curtain in a store across the street.
J. Edward Willis
Valdosta, Georgia

Malta

I was thrilled with Robert Wernick's article about the ruins of Malta. I was born there and lived down the street from Ggantija, the Giant's Tower. It is incredible to me that the rest of the

Get to your cancelled flight on time.

A massive blizzard can turn a 20-minute ride to the airport into a 20-minute ride to the airport. In a Range Rover 4.0 SE, that is. With electronic traction control, all-terrain ABS, and permanent four-wheel drive, it's designed to hold snow-covered roads as deftly as it does no-covered roads. In addition, it has electronic air suspension, which enables you to elevate the Range Rover automatically and drive through a blanket of snow on top of a blanket of snow on top of a blanket of snow. And no matter how miserable it gets outside, such amenities as heated front seats and a six-disc CD player make it hardly noticeable inside. Why not call 1-800-FINE 4WD for the nearest Land Rover dealer? Or visit our Web site at http://www.LandRover.com. At $55,500,* it isn't your everyday investment. It is, however, your everyday vehicle.

RANGE ROVER

world is finally recognizing what the Maltese people have always known and respected as a place of mystery. As children we gathered at night to hear my grandmother's ghost stories that took place in those temples. During the day we played there; however, at night the mammoth structures took on eerie forms and produced wind sounds that gave us chills.
Maria Xerri Altmann
Los Angeles, California

Your article states that around 2500 B.C. the "archaeological record [for Malta] is broken off sharply." At about that same time, Malta, like everywhere else on Earth, was engulfed by the Great Flood. Consult the Book of Genesis in the King James Version of the Bible. The narrow column between the account about Noah, the ark and the flood indicates the date: 2348 B.C.
Joseph J. Bainbridge
Hesperia, California

The Maltese fought bravely against Hitler's forces during World War II. To honor their gallantry, King George VI of Great Britain awarded every citizen of Malta the George Cross. Both Malta's national flag and shield (above) bear representations of it.
Fred D. McGhee
Washington, D.C.

Malta is not the smallest of European nations. Liechtenstein, San Marino, Monaco and Vatican City are smaller than Malta's 123 square miles.
T. C. Lacey
McLean, Virginia

Endangered places

I was pleased and saddened by the photograph of Chicago's Uptown Theatre in Diane Bolz's article on the 11 most endangered sites in the United States. My father, Arthur Frederick Adams, was the Uptown's architect, and it was one of his favorite designs.

At the peak of the theater's life in the late 1920s, the Uptown employed more than 130 persons, ranging from the janitorial crew, ushers and tea servers to the 30-piece orchestra. Dad told me that on opening night, all of the toilet seats, which were engraved with "Uptown Theatre," were stolen as souvenirs.

It is sad to see the deterioration of the Uptown, and I hope that some way is found to restore it.
Arthur F. Adams jr.
Palo Alto, California

We have several positive developments to report. The new owner of Chicago's Uptown Theatre is committed to its preservation and restoration as a community asset. After your article was published, Friends of the Wentworth Hotel in New Hampshire received more than 50 calls from people wanting to purchase and restore the grand hotel. This interest helped convince the current owner not to go through with the October 1 demolition date. Maryland's Sotterly Plantation has received many contributions, including a $200,000 anonymous gift, which will allow it to remain open, but the foundation still needs $2 million to complete restoration and set up an endowment fund.
Richard Moe, President
National Trust for Historic Preservation
Washington, D.C.

Coffeehouses

As always, your articles are great, and I eagerly read Minna Morse's on coffeehouses. I even went through it a second time to make sure I hadn't missed a reference to those in Seattle. No, not one received a mention. Although I'm from Northern California and am closer to San Francisco, my java reverie takes me to Seattle where coffee is sold on almost every corner—in coffeehouses, shops, open markets and bookstores.

I've had coffee casually served in San Francisco, but in Seattle, it was served as an art form.
Alice Moore
Sacramento, California

Johann Sebastian Bach (1685-1750) wrote a secular piece in 1732 entitled *The Coffee Cantata,* in which "Lizzie" (Liesgen) is a youthful coffee addict. Her papa (Schlendrian) tells her that if she doesn't give up the awful habit, he will not allow her to get married. She finally relents and informs her papa that she will give up the craze in exchange for a handsome hero for a husband. On the sly, Lizzie includes in the marriage contract that she will be able to brew her coffee whenever she craves it. At the conclusion, the chorus chants, "As mice to cats, the coffee craze is all the rage with those who use it. When Pa and Ma both love the brew, and even Grandma loves it, too, how ever can the girls refuse it?"
John Halvorsen
El Paso, Texas

Bridges

The new Wabasha Bridge looks like a missed opportunity to me. What could have been a dramatic and lovely example of civic pride and human creativity will instead reflect a community's failure to agree on an esthetic ideal. St. Paul apparently couldn't find a way.
Christine Cary
Lincoln, Nebraska

Phil Patton's article on bridge building was excellent; however, Bruce Vento, not Bento, represents the 4th Congressional District of Minnesota.
Margaret Stodtz
Arden Hills, Minnesota

Letters

I may have some digestive relief for the Calamari Legal Institute (CLI). The volume of the Moon—whether it's made of squid or green cheese—is 5 billion cubic *miles*, not feet. Insatiable sperm whales could not consume a calamari Moon, therefore, for billions of years.
Gary D. Garrett
Arroyo Grande, California
Clearly the CLI and the Letters Editor were out to lunch on this one. Ed.

Letters for consideration in this column must include your full name, telephone number and postal mailing address. Transmit mail to edletters@aol.com or post it to Letters Editor, SMITHSONIAN, *900 Jefferson Drive, MRC 406, Washington, DC 20560. Letters may be edited for clarity and length.*

ALASKA

PRINCESS® TAKES YOU BEYOND YOUR WILDEST DREAMS TO THE WILDERNESS OF ALASKA.

Princess sails farther and travels deeper into the wilderness than any other cruise line. We have the finest fleet – six ships with larger staterooms, private balconies and unrivaled choices in dining and entertainment. On shore, our Midnight Sun Express® is the best rail car experience in Alaska. Our exclusive riverside lodges at Kenai, Denali and Mt. McKinley offer comfort in the wilderness, Princess style. We'll even take you to Prudhoe Bay, Kodiak Island and an Arctic Eskimo village. It's much more than you ever dreamed. It's the real Alaska. It's Princess.

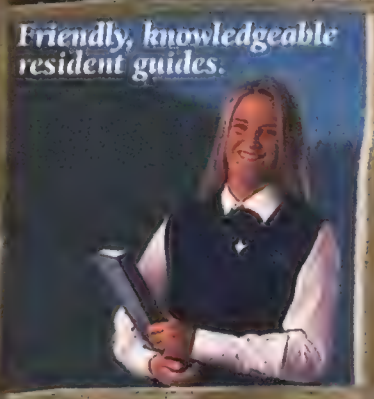
For a free brochure
call 1-800-PRINCESS, reply SM97.

PRINCESS®
CRUISES & CRUISETOURS

More Glacier Bay permits than any other line.

Exclusive riverside wilderness lodges.

Only our cruisetour lodge has a view of Mt. McKinley.


Friendly, knowledgeable resident guides.

360° views, open-air viewing platforms and meals cooked to order.

Newest, most spacious ships with more private balconies.

Caribbean, Panama Canal, Mexico, South America, Europe, Alaska, Canada/New England, Orient/Asia, India, Africa, Australia/New Zealand, Hawaii/Tahiti

© 1996 Princess Cruises, Inc.

British & Liberian Registry

The future is unfolding every day. It's
apparent in Europe, where corporations are
restructuring to compete more aggressively in
the global environment. And in the dawn

©1996 Merrill Lynch & Co., Inc.

of South Africa's new political and economic era. Merrill Lynch does more than just watch these and other powerful forces of change throughout the world. We help people everywhere understand the impact of these forces on their lives. Insights that help countries, companies and individuals shape better futures make the difference.

The difference is Merrill Lynch.

Merrill Lynch

A tradition of trust.

The Object at Hand

By John Fleischman

A young war-horse helped Phil Sheridan win the day in the Shenandoah Valley and, made famous by a poem, helped Abraham Lincoln win re-election

The taxidermist set Winchester's head slightly lifted, ears cocked and a forehoof poised—the picture of the old campaigner listening for the rumble of a distant fight. Winchester is magnificent; 16 hands high, jet black and wearing a general's saddle trappings, he stands in the Hall of Armed Forces History at the Smithsonian's National Museum of American History.

He was a big gelding who caught the eye of a Union colonel, a swarthy Irishman from rural Ohio with long arms, short legs and an unforgettable bullet-shaped head. Phil Sheridan named the horse Rienzi, after the Mississippi town in which Sheridan's troops had been encamped, and rode him over the next three years through 45 engagements including 19 pitched battles and two cavalry raids. Along the way, Rienzi became so famous that he was briefly a factor in the Presidential election of 1864 and a staple of patriotic entertainment for veterans, Republicans and schoolchildren for a half-century.

In his case at the National Museum of American History, Winchester looks ready to gallop toward the sound of the guns.

A poem, "Sheridan's Ride," was written by a minor painter and versifier named Thomas Buchanan Read. It was used shamelessly to promote the Northern war effort. Whatever its literary flaws, Read's poem captured one image indelibly—a powerful horse carrying a determined man into battle.

They must have been a sight, the horse who measured 5 feet 8 at the shoulder and his master who stood 5 feet 5 in his boots. Soldiers snickered that "Little Phil" shinnied up his saber to Rienzi's saddle, but there were no snickers on October 19, 1864, when horse and rider appeared through the smoke at Cedar Creek to stem certain defeat in the Shenandoah Valley. Sheridan's army had been surprised at dawn and driven from their camp by Jubal Early's Confederate veterans. Returning from Washington, Sheridan had spent the night up the valley in Winchester and awoke to distant gunfire. The Confederate assault had smashed the Union left, sending survivors pelting up the valley turnpike toward Winchester. The Union center made a brief stand, then fell back, nervously awaiting Early's next charge.

Sheridan and Rienzi, meanwhile, were heading south from Winchester, toward the sound of the guns. After cresting a ridge, Sheridan recalled, "there burst upon our view the appalling spectacle of a panic-stricken army . . . throngs of unhurt but utterly demoralized [men] and baggage wagons by the score, all pressing to the rear. . . ."

Sheridan dashed forward, waving his hat so the troops would see him. Some cheered and found new heart. Some kept running. But the rolling sound of cheering followed Sheridan and the well-lathered Rienzi as the general rode up to a rise where a few rattled Union commanders had gathered.

He quickly took verbal reports. Then wheeling Rienzi, he jumped a rail barricade, rode forward and turned to face the men behind him. "Men, by God, we'll whip them yet," he bellowed. "We'll sleep in our old camps tonight." The troops jumped forward, roaring. A private who saw Sheridan ride into sight remembered thinking, "No more doubt or chance for doubt existed; we were safe, and every man knew it."

Twelve days later in Cincinnati, Tom Read was talking with James Murdoch, a matinee idol scheduled to read patriotic verse at a war benefit that evening. Read's brother-in-law walked in, carrying *Harper's Weekly* with a battlefield

As his animated drawing sprang to life, Mike felt goofy enough to give improv acting a try.

Enjoy a whole new way to vacation at the Walt Disney World® Resort–the Disney Institute, where every day is unique, and every day is yours to design.

You can learn to sauté like a gourmet. Or take strokes off your golf game with tips from a pro. Host a TV show, enjoy a massage at the spa, take your best shot in a photography workshop, or reach new heights on the rock climbing wall. The evenings are just as inspiring, with superb dining, live performances, film screenings, and an impressive lineup of guest artists.

No matter what you choose to try, a Disney Institute vacation is one unbelievable experience after another.

Call 1-800-496-6337 ext. MG36 or your Travel Agent for individual or group reservation information and a FREE Video.

http://www.disneyinstitute.com

Disney INSTITUTE

You won't believe what you can do

© Disney

sketch by Thomas Nast of Sheridan riding Rienzi toward Cedar Creek. "Buck, there's a poem in that picture," he said.

Read regarded poetry as a sideline to painting. On a visit to Boston he had met Longfellow and was inspired to add versifying to his repertoire. In 1853 Read left for Italy to crank out portraits and allegorical paintings, as well as a 276-page verse narration about the American Revolution.

The outbreak of the Civil War saw him hurrying back to Cincinnati to offer his rhetorical services to a local general, Lew Wallace, of subsequent *Ben Hur* fame. As a staff volunteer, recruiter and anti-Copperhead propagandist, Read sometimes also helped James Murdoch with his inspirational platform work. Looking at Sheridan's picture in *Harper's*, the actor wondered if Read might attempt something topical for that evening's performance.

Read bristled, "Do you suppose I can write a poem to order?" Nonetheless he shut himself in his study and, by noon, called for his wife to copy "Sheridan's Ride" out fair.

That night, Murdoch uncorked the verse that would gallop across a nation and through countless poetry collections for children yet unborn. To keep up suspense, at the end of each verse, Sheridan was closer to the battle: "Up from the South at break of day, / Bringing to Winchester fresh dismay, / The affrighted air with a shudder bore, / The terrible grumble and rumble and roar, / Telling the battle was on once more, / And Sheridan twenty miles away."

In Thomas Read's painting, Sheridan and his steed race toward Cedar Creek.

"Sheridan's Ride" was a timely sensation. The election of 1864 had been hanging in the balance. People were tired of the war. In Chicago, the "Peace" Democrats had put up George B. McClellan, hoping the onetime military figure with an aversion to battle would appeal to an electorate that also seemed to be sick of Abraham Lincoln.

Only Sheridan's victories in the Shenandoah looked undimmed in Republican war politics. In August, Grant ordered Sheridan to smash Early's army and make sure the Shenandoah never harbored another rebel force. By early October, Sheridan had already whipped Early twice, and his forces were burning the valley's crops. "A crow," he reported, "would have had to carry its rations if it had flown across the valley."

But Early's masterful attack at Cedar Creek nearly unseated Sheridan—and with him, Lincoln. When Rienzi delivered Sheridan in the nick of time, the Republican Party was eternally grateful. Read made the debt explicit: "Here is the steed that saved the day / By carrying Sheridan into the fight / From Winchester—twenty miles way!"

"Widely read and recited, the piece made a fine recruiting and electioneering appeal," according to Civil War historian Shelby Foote. On Election Day, Horace Greeley's influential *New York Tribune* called it "a magnificent lyric" and ran the seven stanzas of "Sheridan's Ride" on page one. It is impossible to know how many votes Read's verses delivered to Lincoln, but in New York, every vote was critical. Lincoln carried the state by fewer than 7,000 votes and Connecticut by 2,000.

Lincoln's re-election was safe, but the war still had five fearful months to run. Now Rienzi got fully "stretched out," as newspapers reprinted Read's poem. "The thing they seem to like best about it," said Sheridan, "is the horse." He graciously acknowledged his debt in a letter to Read. "Your genius has put us into the same boat for a long journey, and we must try and take along the black horse."

Read had yet to cash in on his poem; the newspapers, the Republicans and the platform elocutionists had helped themselves. Read felt that only a painted version of "Sheridan's Ride" by his hand would yield real return. In 1865 Sheridan, posted to New Orleans to keep a baleful eye on French moves in Mexico, agreed to pose with Rienzi.

Read spent a month in New Orleans doing preliminary sketches. Then he finished painting his self-proclaimed masterpiece in Italy. "There may be poets who would write a better poem than 'Sheridan's Ride,'" he wrote, "but could the same man paint a better picture? There may be painters who could produce a better picture, but could the same artist write a better poem?"

Read launched into plans to issue the painting as a color lithograph suitable for framing.

But he did not have long to enjoy his profits. Heading home in 1872, a cold he caught on the Liverpool docks turned to pneumonia at sea. In New York a week later, he died at age 50.

Rienzi was next, although by then Sheridan had officially renamed him Winchester. He had carried the general to Appomatox Court House, there to wait outside, nervously twitching his tail as always, while, as Sheridan looked on, Lee and Grant brought the Civil War to a close.

When the old war-horse died in 1878, he was stuffed (or "mounted" as taxidermists insist) and presented to the military museum on Governor's Island in New York Harbor.

Ten years later, Sheridan, too, was dead, at 57. He was only 33 at Cedar Creek, and a long Army career took him from enforcing Reconstruction in the South to observing the Franco-Prussian War to fighting the Indian Wars on the Great Plains. He wound up in 1888 as Commander in Chief of the Army.

Adverse critical reaction to "Sheridan's Ride" eventually set in. Picky historians kept pointing out that Sheridan's route from Winchester to Cedar Creek was more like 12 miles than Read's 20. They claimed that Sheridan couldn't have ridden hell-for-leather along a road choked with a defeated army. But the ride was for real, and Rienzi/Winchester was no fake.

When a fire damaged the Governor's Island museum in 1922, an unharmed Winchester was given an Army escort as far as the Smithsonian in Washington. At the New York farewell ceremony, the 22nd Infantry Band played Civil War melodies. Bertram Isaacs, the grandson of a Grand Army of the Republic dignitary, recited "Sheridan's Ride." Then the old veterans stood up and gave Winchester a rousing cheer. The day was bright again before their eyes: "Hurrah for Sheridan! / Hurrah, hurrah, for horse and man!"

BECAUSE WE RECYCLE OVER 100 MILLION PLASTIC BOTTLES A YEAR, LANDFILLS CAN BE FILLED WITH OTHER THINGS. LIKE LAND, FOR INSTANCE.

We can't make more land. But we can do more to protect what we have. In fact, last year Phillips Petroleum's plastics recycling plant processed over 100 million containers. This effort reduced landfill waste and helped conserve natural resources. And that left another little corner of the world all alone. At Phillips, that's what it means to be The Performance Company.

PHILLIPS PETROLEUM COMPANY

PHILLIPS 66

For an annual report on Phillips' health, environmental and safety performance, write to: HES Report, 16 A1 PB, Bartlesville, OK 74004.

Phenomena, Comment and Notes

By John P. Wiley jr.

Most Americans believe science and technology make their lives better, two out of five are "very interested" in them, but not many know much about them or how they work

In *One Million B.C.*, Victor Mature protects the fair lady from an iguana-ish dinosaur. No one cared that humans and the great reptiles were never contemporaries.

We are in a golden age of science in many fields, and yet this is not an easy time to be a scientist. Research budgets are being cut. Editors at *Scientific American* are writing books saying that science has gone about as far as it can go. More and more people, it seems, are ignoring real science to embrace astrology, healing with crystals, alien abductions and the like. Carl Sagan himself has a book out attacking this new Dark Age of "pseudoscience and superstition." Most of all, scientists worry that their fellow citizens just plain don't understand science.

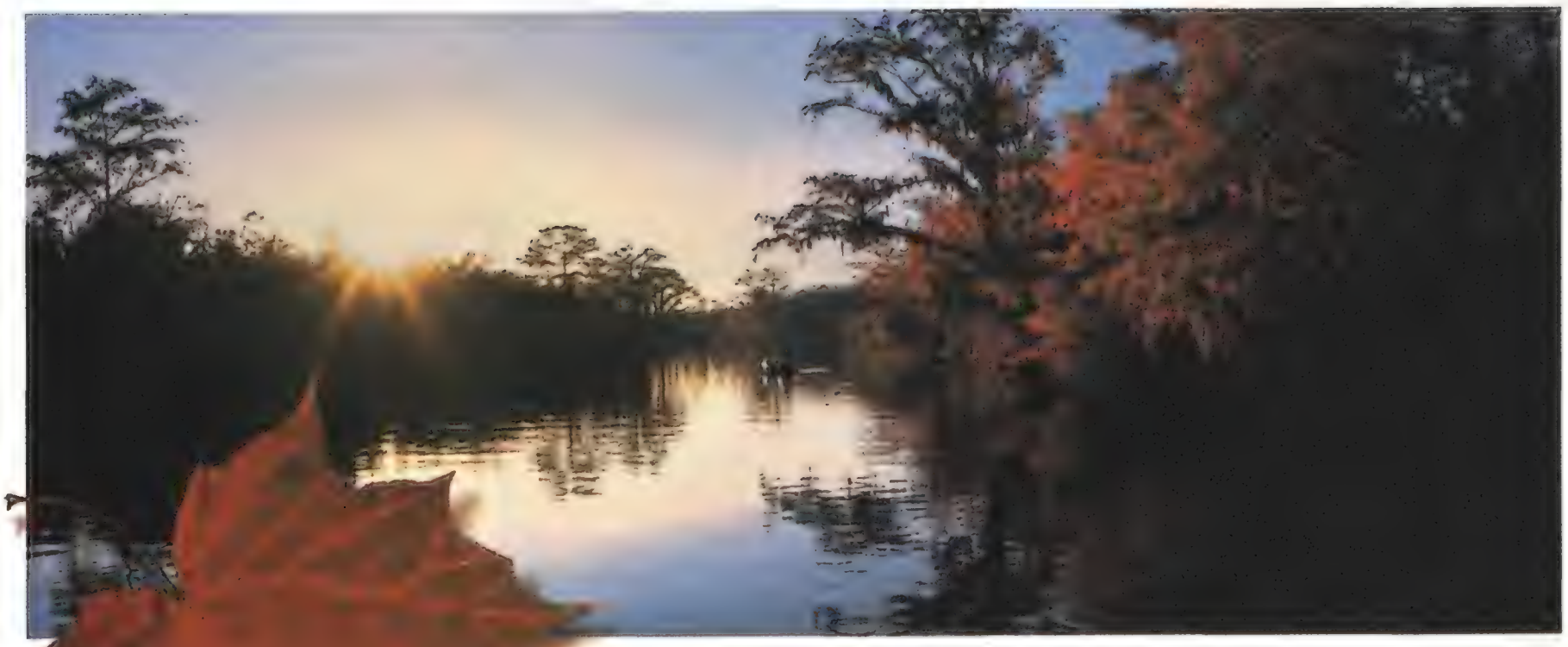
As a nation, we've been worried about public understanding of science since the Russians launched *Sputnik* in 1957. Schools changed their curricula. Newspapers increased their science coverage. Foundations even put up money to turn raggedy courthouse reporters into knowledgeable science writers. (Thank you, Alfred P. Sloan Foundation!) As a White House press officer might put it, an effort was made.

Now it's nearly 40 years later and it turns out we have a long way to go. Every two years or so, the National Science Board sends the President a report on what it calls science and engineering indicators. The 1996 edition is a 306-page text (with 321 pages of appended tables) that assesses science education from elementary school through graduate school and analyzes the scientific work force, trends in research and development, and so on. The running text is heavily marbled with charts, graphs and still more tables.

One section is called "Science and Technology: Public Attitudes and Public Understanding." It is based on an in-depth survey of 2,006 people, supposedly a representative sampling of adult Americans in terms of gender, years of education, years of science education and interest in science. In many ways the news is good. The interest is there. About 40 percent of the population describes itself as very interested in scientific discoveries and new technologies. Medical discoveries, as might be expected, rank the highest, at 70 percent. Environmental issues are losing their appeal (they're down ten points from 1990) but are still of interest to just over half (53 percent) of the adult population. Space exploration, at about 25 percent, just noses out foreign policy.

Our interest in science exceeds our grasp, however. Despite all the good intentions, we just don't know much about science. Fewer than one in ten Americans can define a molecule. Many know a molecule is small, but they do not know how small it is compared with a cell or an atom. Just one in five can give a minimally acceptable definition of DNA. These were both essay questions, which some people don't do well on. The results of a couple of the multiple choice questions would worry anyone, however. Only 47 percent know that the Earth goes around the Sun once a year. Only 48 percent know that the earliest humans did not live at the same time as the dinosaurs. With those results, one could argue that half the adult population of the United States is scientifically illiterate.

The good news is that we did much better on some other questions. Almost 80 percent of us know the continents are moving and that the center of the Earth is very hot. Three-quarters of us know that light travels faster than sound and that the Earth moves around the Sun, not vice versa. And 91 percent



"There's a stretch along the Lower Roanoke River in North Carolina

21,068 magnificent acres,

that's been called one of America's last great places. It's where I grew up, and now I bring my

400 plant varieties,

kids here to teach them what nature's all about. My company, Georgia-Pacific, owns this land

214 species of birds

and we did something no forest products company has ever done before. We formed a partnership

and one partnership making sure

with The Nature Conservancy to co-manage and protect this place. We all want a better world

it all stays that way.

for our kids. It just feels good to be working for a company that's doing something about it."

Mason Lilley, Forester

Georgia-Pacific

The Forest Products Company

know that smoking causes lung cancer.

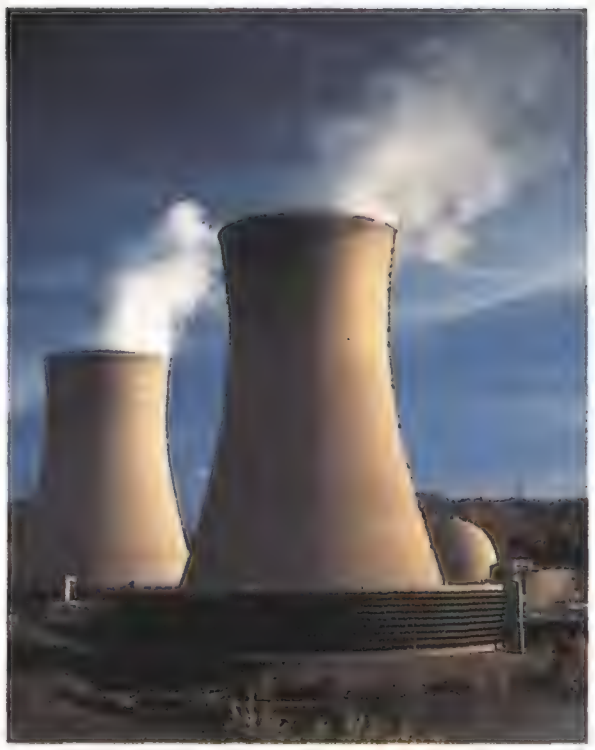
Nearly a quarter of all adults can explain why there is a hole in the ozone layer, and about a third know of the potential dangers. Only 14 percent, however, know that the hole is over Antarctica. Forty-one percent of those polled said they had a clear or general understanding of acid rain, but only 5 percent could give a scientifically correct response; another 2 percent could give a general description, and the rest simply classified acid rain as pollution.

If we have trouble with knowing science, we have even more with how it works, the scientific method. Most of us just don't get it. Only 2 percent of Americans understand science as the development and testing of theory. Thirty-four percent have some idea that science has to do with experimental study, rigorous comparison and careful measurement. The rest, apparently, don't have a clue.

Now that we adults are out of school, some for decades, where do we get our information about science? It's no surprise that 63 percent of the respondents watch one or more hours of television news every day. It depresses me that only 47 percent read a newspaper. The totals are a little scary: adults spend an average of 1,019 hours (the equivalent of 25 workweeks) a year watching television, of which 408 hours is news. Americans average 81 hours a year watching television shows about science. That comes close to taking two one-semester courses, if my numbers are correct. That's impressive, and makes pretty clear where those concerned with scientific literacy should concentrate their efforts. There is no breakdown of how many hours people spend reading science stories in newspapers and newsmagazines (and no mention at all of general-interest magazines such as this one).

The report demonstrates that yes, we are now a computer society. More than half (54 percent) of all American adults have access to a computer either at home or at work. A fifth have access in both places. Two-fifths of college students can write programs in computer languages such as BASIC, PASCAL or C. (They might as well be at Starfleet Academy; I'll never catch up.)

Public confidence in the people who "run" science has stayed about the same since 1973, at 38 percent. Medicine is the only field with a higher score, and



Americans are evenly divided over the benefits and risks of nuclear power.

that has declined from 54 percent to 41 percent. Only the military has increased its score, from 32 percent to 37 percent. Confidence in the executive branch of the federal government has dropped from 29 percent to 11 percent; Congress and the press have both dropped from 23 percent to 8 percent. (Does it bother anybody that no institution on the list—the others include the U.S. Supreme Court, education, major companies, organized religion, television and organized labor—has even a 50 percent approval rating?)

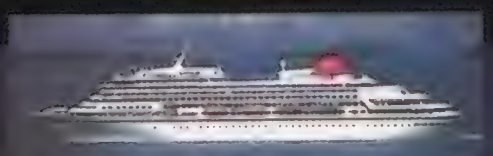
There are two areas of science and technology on which the American public is evenly divided. One is nuclear power, on which subject 14 percent of the public believes the benefits equal the risks. The rest, in almost exactly even numbers, believe the benefits outweigh the risks or vice versa. The other is space exploration, about which respondents were asked to weigh the benefits and the costs rather than the risks. Again the break was almost exactly even. There were 46 percent on the benefits side, only 8 percent on the fence, and 45 percent who said the costs outweigh the benefits. With genetic engineering, another controversial area, the weight (43 percent) is on the benefits side, with 22 percent saying the benefits equal the risks and 35 percent saying the risks outweigh the benefits. Scientists should not worry about those rather low benefit numbers. Asked whether science and technology "are making our lives healthier, easier and more comfortable," a resounding 86 percent of those polled said yes.

It seems to me there are two parts to the problem of scientific literacy. One comes early in life, when a child's natural and strong curiosity about the physical world—the excitement of understanding fire and ice and sunsets and stars—is too often dimmed by difficult and boring science classes, where science sometimes seems to have little or nothing to do with the wonders of the world. And at the other end of life, we lose whatever science vocabulary we once had if we do not use it often enough, just as those lucky enough to have learned a second language will lose that if it is left unused.

I have no solution, except to ask those who do know science to work harder at explaining to the rest of us just how extraordinary the physical world really is, how high the human mind has been able to soar on the power of a three-pound brain. For me, it's time to buy a lounge chair and lean back for that 81-hour minimum yearly requirement of science television.

Picture Credits

Cover: (left to right) Ronald Seymour/Maurice Seymour, Everett Collection, Academy of Motion Picture Arts and Sciences © Turner Entertainment, Philippe Halsman/Halsman Estate; 28 Rick Vargas/Smithsonian Institution; 30 National Portrait Gallery; 32 Photofest; 34 Photo Researchers; 36 Mark Avino/National Air and Space Museum; 38 Breton Littlehales; 40 National Museum of American History; 43 © *The New York Times*/NPG, Gift of Frances O. Tames; 46 Mark Kauffman/*Life* Magazine © Time Inc., Cinemonde; 47 (left to right) Cinemonde, NMAH, Library of Congress, NPG, Photofest; 48 (clockwise from top left) Museum of the City of New York, NPG, Harry Ransom Humanities Research Center/University of Texas at Austin, Saul Zalesch, NPG; 49 Chicago Historical Society, Dwight Blocker Bowers; 50 NPG, Shubert Archive; 50,51 New York Public Library for the Performing Arts; 51 (left to right) Maryland Historical Society, NMAH, Alice Becker Levin, Donna Mussenden VanDerZee, NPG; 52 Photofest, Alice Becker Levin; 53 (clockwise from top left) *Vanity Fair* © Condé Nast Publications, NPG, Museum of the City of New York, Stephen and Judy Ison, Mike Kaplan Collection, Photofest; 54 Alice Becker Levin/© Turner Entertainment, NPG, Triton Gallery; 54,55 Photofest; 55 (clockwise from top left) Triton Gallery, Photofest, McNay Art Museum, Harry Ransom Humanities Research Center; 56 (clockwise from top center) *Cabaret*/Allied Artists, © Time Inc. (2), Harry Ransom Humanities Research Center, Triton Gallery; 57 © Time Inc., Hal and Judy Prince; 60 *Unknown Mexico* by Carl Lumholz; 60,61 Terrence Moore; 62 *Unknown Mexico*; 64-73 Terrence Moore; 76 John Edward Linden; 77 Steve Murez; 78 John Edward Linden; 79 Henry Groskinsky; 80 Santiago Calatrava, John Edward Linden; 82 Steve Murez, Peter Mauss/Esto Photographics; 84 Santiago Calatrava; 86 Hans Ege; 95-97 Mark Gulizian, Franco Khoury/Renwick Gallery, Collection of Patricia S. Smith; 102-11 Kay Chernush; 114-18 Gary Braasch; 118 Jim Denny (top right); 118-23 Gary Braasch; 127 Gerry Gropp; 128-29 Mickey Pleger; 130-31 Courtesy of dog owners and Danika Metallinos; 132 International Sheep Dog Society; 134 Ronald Pemberton; 136-37 Gerry Gropp; 142-47 From *Pickups*, photographs by William Bennett Seitz © 1996, text by Harry Moses; 150 Library of Congress; 151 Bettmann Archive; 152-54 Granger Collection; 155 Library of Congress; 156-57 Culver Pictures; 157-58 Granger Collection; 180 Wally Neibart



ROYAL VIKING SUN

{ Standing on the ship's bow, you listen to the wind *melodiously* wisping off the majestic Briksdalen glacier. Or is it the echo of Patti LuPone's unforgettable *performance* from last night? }

Exotic. Attentive. Alluring. Refined. No matter what you want your world to be, Cunard's Royal Viking Sun will take you there. For our extensive portfolio of European and other worldwide cruises, call your Travel Counselor or 1-800-7-CUNARD, ext. 61V.

Visit us at: www.cunardline.com

Where else in the world.

CUNARD

Around the Mall and Beyond

By Michael Kernan

NASM's new "How Things Fly" gallery is hands-on—to the max! At 50 visitor-operated displays, including a supersonic wind tunnel, you can see and feel the basic principles of flight in action

Curator Christopher Stetser takes the pilot's seat in a Cessna 150. Visitors can do the same and work controls for the plane's ailerons, rudder and elevator.

Not so long ago people thought that the air belonged to the birds. If a balloonist landed in a field, he was apt to be attacked by peasants with pitchforks. Today human flight is so commonplace that we would probably rush up to that balloonist waving tickets and wanting a ride.

How much we understand about flight is another story, but we have come a long way from the big mistake of trying to fly like birds do. In fact, with our spacecraft we are outgrowing the need for wings entirely. Nevertheless, there are those of us (I got a D in physics) who can use a little help here.

How, exactly, do things fly? The National Air and Space Museum recently opened a wonderful gallery on this subject. A permanent addition to celebrate the museum's 20th anniversary and the Smithsonian's 150th, it is worthy of "the world's most visited museum," with its eight million visitors a year.

I got a preview with curator Christopher (Kit) Stetser and Don Lopez, a World War II fighter pilot who has bet his life many a time on the deceptively simple physics of flight. Lopez, who joined Air and Space in 1972, retired three years ago but has returned to his post as deputy director. During the war he flew with Claire Chennault's 23rd "Flying Tiger" Fighter Group in China. These were the guys in the P-40s, and the P-51 Mustangs, the planes with the shark teeth painted on their noses. They flew the Hump, as they called the mountain range between India and China, and for my generation they were the last word in heroes—lean, grinning guys with their short leather jackets and their helmet straps hanging loose. Lopez was hit many times by Japanese fire, but he survived to watch a lot of things change in the air above us.

"I came home in '45," he said, "and was a test pilot at Eglin Field. I worked jets. They were so different from prop planes, we could hardly believe it: so smooth, no torque, there seemed to be no reason for them to be moving."

He also flew Sabres in the Korean War, he mentioned casually.

But there we were in the "How Things Fly" gallery. First off, I got a lesson in air pressure. We all live at the bottom of a sea of air, and the stuff pushes against us with astonishing force. There is a brick wall set in the middle of the gallery. It weighs four tons, exactly as much as the air in the room weighs. A hands-on display allowed me to literally push against the force of the atmosphere and measure it.

"We have great photos of animal flight," Stetser noted. "But we don't do much with it here; that flapping business set back aeronautics many years. We're concentrating on fixed-wing flight, with some attention to balloons, helicopters, gliders and spaceflight."

He showed me wind and smoke tunnels, hands-on devices that let even a D student see how the shape of a wing gives it lift and how lift relates to airspeed. If you double the airspeed, you quadruple the lift. The smoke tunnels will run all day, in contrast to the five-minute smoke-tunnel demonstrations many science museums offer.

I had to ask: If the wing surface provides the lift, how can planes fly upside down? "No problem," replied Lopez. "You just keep your angle of attack

LESS THAN 60 LEFT IN THE EVERGLADES. WE'VE HONORED THEM WITH A STAMP.

THE FLORIDA PANTHER IS IN DANGER OF BECOMING EXTINCT. AND ITS HABITAT KEEPS GETTING SMALLER. NOW, THE U.S. POSTAL SERVICE IS HELPING TO RAISE AWARENESS OF THE PLIGHT OF THE FLORIDA PANTHER AND 14 OTHER SPECIES WITH OUR FIRST SET OF PHOTOGRAPHIC STAMPS—THE ENDANGERED SPECIES COLLECTION. USE THEM TO MAKE OTHERS AWARE OF ENDANGERED WILDLIFE. AND SAVE THE LIMITED-EDITION COLLECTIBLES TO SHOW YOUR CONCERN FOR THESE ANIMALS.

Show you care with the Endangered Species Stamp Pane.

The softcover book makes a great gift.

This book of Postal Cards with pre-paid postage can be mailed or framed.

CALL 1 800 STAMP-24 FOR THE ENDANGERED SPECIES COLLECTION. AND SHOW YOU CARE.

http://www.stampsonline.com

UNITED STATES POSTAL SERVICE®

THE ENDANGERED SPECIES STAMPS WERE PHOTOGRAPHED BY JIM BALOG USING A MAMIYA 645PRO AND MAMIYA SEKOR LENSES. ©1996 USPS

high, and you get more lift. People fly from one city to another upside down. It's kinda stupid, but you can do it." Acrobatic planes often have symmetrical wings, he added.

Playing with a smoke tunnel, a visitor can see what happens when you come in for a landing. You change the angle of the flaps and the air flows around the surfaces in a new pattern.

This enabled me to lecture my guides a little on one of my favorite subjects, the Wright brothers. They didn't invent flying, of course. Hundreds of people had glided through the air before them. What the Wrights contributed was, in essence, the aileron.

Before, most fliers had thought in two dimensions, as though the plane were sliding around on a vast empty parking lot. The Wrights thought in three dimensions. They learned that, to make a truly controlled turn, you had to bank the plane. And to do this, you warped the wings, bending their trailing edges—one up, one down.

The warping soon developed into ailerons, the movable parts of the wing at the trailing edge. A tail with movable vertical vanes was added to offset the aerial turmoil of a banked turn. "That's interesting," interjected Lopez politely. Clearly, he had learned all of this decades ago.

Some of the gallery's 50 interactive displays involve supersonic flight, including a supersonic wind tunnel run by a giant compressor in the NASM basement. Here, you can see how shock waves, caused by sound waves piling up in front of the plane, look at those speeds.

"One thing we want to do in this gallery is explain why the various aircraft around the museum look the way they do," Stetser told me. "All the different shapes. Why are some planes ultrasleek and others more rounded? Slower planes like the *Voyager* [the one that flew nonstop around the world] need wings with a large surface area to provide enough lift. But since lift increases rapidly with speed, faster airplanes get by with smaller wings. The wings on planes that fly at nearly the speed of sound are swept back so there's less drag from shock waves. Planes that fly just above the speed of sound can have a very sharp nose—the emphasis is on reducing drag.

But at hypersonic speeds, like Mach 5 and above, the heat caused by air being compressed in front of the plane is extreme. A rounder nose and wings are needed to push shock waves out ahead and thus insulate the plane from the extreme heat. That's why the shuttle's nose looks as stubby as it does. And it's why space capsules reenter the Earth's atmosphere with the large rounded surface facing forward." Heat is always a factor in supersonic flight; on the Concorde, Lopez said, you can put your hand on the inside wall and feel the warmth caused by friction, even though the plane is moving through 65-below-zero skies.

This being a flight exhibit, I kept looking up. And there I saw an 11-foot-long remote-control blimp that cruises the gallery's airspace; a model astronaut demonstrating weightlessness; a barometer that moves from floor to ceiling to show how air pressure changes with altitude; a life-size small-plane cutaway showing how the skin, not just the skeleton, provides strength.

"People don't understand how a rocket engine can work in a vacuum," Lopez said as we examined a cutaway rocket engine, "because they think it has to have air to push against. It's better to think of the engine as creating an explosion that pushes the rocket forward whether there's air around it or not."

I was reminded of the famous *New York Times* article of 1920 when the paper patronizingly chuckled from the heights of journalism that rocket pioneer Robert Goddard lacked "the knowledge ladled out daily in high schools." Forty-nine years later, with Apollo 11 circling the Moon, the *Times* ran an equally famous correction: "It is now definitely established that a rocket can function in a vacuum. The *Times* regrets the error."

This gallery has a large budget for maintenance, Stetser said, because so many of its exhibits are operated—and sometimes abused—by visitors. Volunteer docents and paid explainers are on hand. Supervisors oversee the place from a control tower mock-up overlooking the gallery.

Stetser explained that a team of 15 people at NASM worked on the gallery, which is generously supported by Boeing, NASA, the National Science Foundation, Cessna, the James Smithson Society and others.

We walked into a cutaway of a Boeing 757 that shows, for instance, how the windows are built and the seat structure. "We thought maybe we should have an in-flight movie," quipped Stetser. I climbed into the cockpit of a Cessna 150 and pretended to fly while I learned how to control the ailerons, rudder and elevator.

I told Stetser and Lopez that I had never learned to fly but had once sat in the front seat of a homemade glider watching the ground rush up at me and hoping that the pilot, at my back, was watching it rush up, too. Lopez nodded and reminded me of the old saw: flying is the second greatest thrill in the world—the greatest is landing. "You don't have to take off," he added, "but you've gotta land."

Final touches complete six years of work on the gallery. The cutaway plane at the back shows how certain materials and structures make aircraft both light and sturdy.

The people in the Pyramid are working for you.

It's comforting to know you're not alone – especially when it comes to planning for a secure future. The Transamerica companies offer life insurance, annuities, retirement plans, mutual funds, reverse mortgages, consumer loans and other products that make living for today and planning for tomorrow a little easier. The people in the Pyramid are ready to help.

TRANSAMERICA
www.transamerica.com

Smithsonian Highlights

Plan a Smithsonian visit in 1996!

Join in the fun as the Smithsonian celebrates its 150th anniversary with a year of special exhibitions and events. *Receive a free Associates' planning packet.* Write Smithsonian Information, Smithsonian Institution, Washington, D.C. 20560, or call 202-357-2700 (voice) or 202-357-1729 (TTY), 9 A.M. - 5 P.M., Monday - Friday; 10 A.M. - 4 P.M., Saturday - Sunday. *Note:* Parking near the Smithsonian is limited. The Metrorail subway system, convenient to all museums, has parking available at some stations (details in packet).

Begin your visit at the Smithsonian Information Center's Associates' Reception Desk—open 9 A.M. - 4 P.M. daily—in the Castle. Special materials await you.

Museum Hours
Smithsonian museums are generally open 10 A.M. - 5:30 P.M. daily, except December 25. Hours at the National Zoo are 9 A.M. - 4:30 P.M. daily for buildings, and 8 A.M. - 8 P.M. for grounds.

'America's Smithsonian'
St. Paul Civic Center, St. Paul, Minnesota (through November 14) Centerpiece of the Institution's 150th anniversary celebration, the traveling exhibition continues its tour of Smithsonian treasures. *Note:* Admission is free, but passes are required. Advance passes are available for a service fee of $3.50 each by calling 1-800-913-TOUR. The Smithsonian Voices of Discovery program is bringing a series of free public lectures to St. Paul and Minneapolis October 24 through November 2.

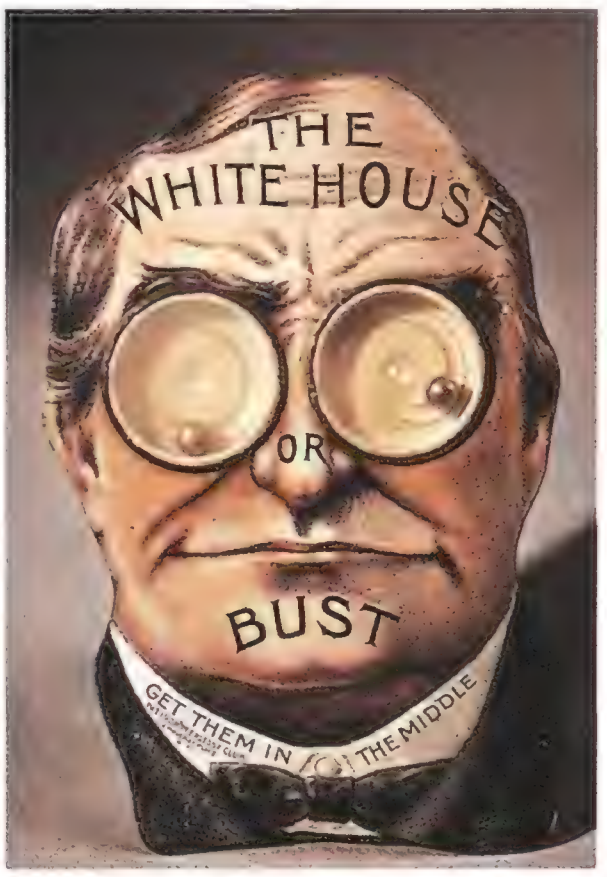
Special November Exhibits, Events

National Portrait Gallery
Image of the President: Photographs by George Tames, 1944-1974 (through September 1, 1997) Works by the Pulitzer Prize-winning *New York Times* photographer. See *Highlights Continued*, page 43.

Red, Hot & Blue: A Salute to American Musicals (through July 6, 1997) Exhibition organized jointly with the National Museum of American History. See page 46.

National Museum of American Art
American Photographs: The First Century (November 22 - April 20, 1997) Exhibition features daguerreotypes, ambrotypes, tintypes, from the museum's Charles Isaacs Collection of early photography.
American Kaleidoscope: Themes and Perspectives in Recent Art (through February 2, 1997) Works by 14 contemporary American artists whose art speaks to the unity, variety and continuity of American culture.

Renwick Gallery
Calico and Chintz: Antique Quilts from the Collection of Patricia S. Smith (through January 12, 1997) Richly patterned, rare early American quilts. See page 95.



Campaign novelty (c. 1908) from NMAH's "We the People" show parodies three-time candidate William Jennings Bryan.

National Air and Space Museum
How Things Fly New permanent gallery elucidates the basic principles of flight. See *Around the Mall*, page 36.
The Enola Gay (runs indefinitely) Exhibition features the forward fuselage of the *Enola Gay*, the B-29 that dropped the atomic bomb on Hiroshima.

National Museum of Natural History
HoloGlobe (runs indefinitely) The first public showing of large-scale High-Definition Volumetric Display (HDVD) gives viewers a unique, scientifically accurate look at our planet.
Gem and Mineral Hall Gallery is closed for renovation until late 1997. The famous Hope Diamond is on view on the second floor of the Rotunda.

National Zoological Park
What's New at the Zoo? A greater one-horned Asian rhinoceros calf was born on September 18. The 138-pound female was named Chitwan, after the Nepalese National Park where her mother was born. Only 2,000 of the species remain.

National Museum of American History
From Frying Pan to Flying V: The Rise of the Electric Guitar (November 1 - April 1997) Display of vintage guitars includes a Rickenbacker "frying pan" and the Les Paul "log."
We the People Permanent political history exhibition has reopened after extensive renovation.

National Postal Museum (Located next to Union Station on Capitol Hill)
Colonial Rarities: United States Postal History Before 1800 (November 1 - April 15, 1997) Rare covers tell the story of the British Parliamentary Posts in America and the American Independent Posts.

National Museum of African Art
Ceramic Gestures: New Vessels by Magdalene Odundo (through January 2, 1997) Recent works by the well-known contemporary ceramist from Kenya.
Memory: Luba Art and the Making of History (through February 23, 1997) Art from the Luba Kingdom of central Africa.

Freer Gallery of Art
Telling Tales in Japanese Art (November 23 - May 1, 1997) Hand scrolls, albums, folding screens, fans, dating from the 13th through early-19th centuries, highlight Japanese visual narratives.
An Invitation to Tea (November 9 - May 1, 1997) Exhibition celebrates the centuries-old Japanese tea ceremony.

Take a peace-loving people

Blend with living rainforest

And 6% of the world biodiversity

Add atlantic
and
pacific coasts

Steam

Stir occasionally

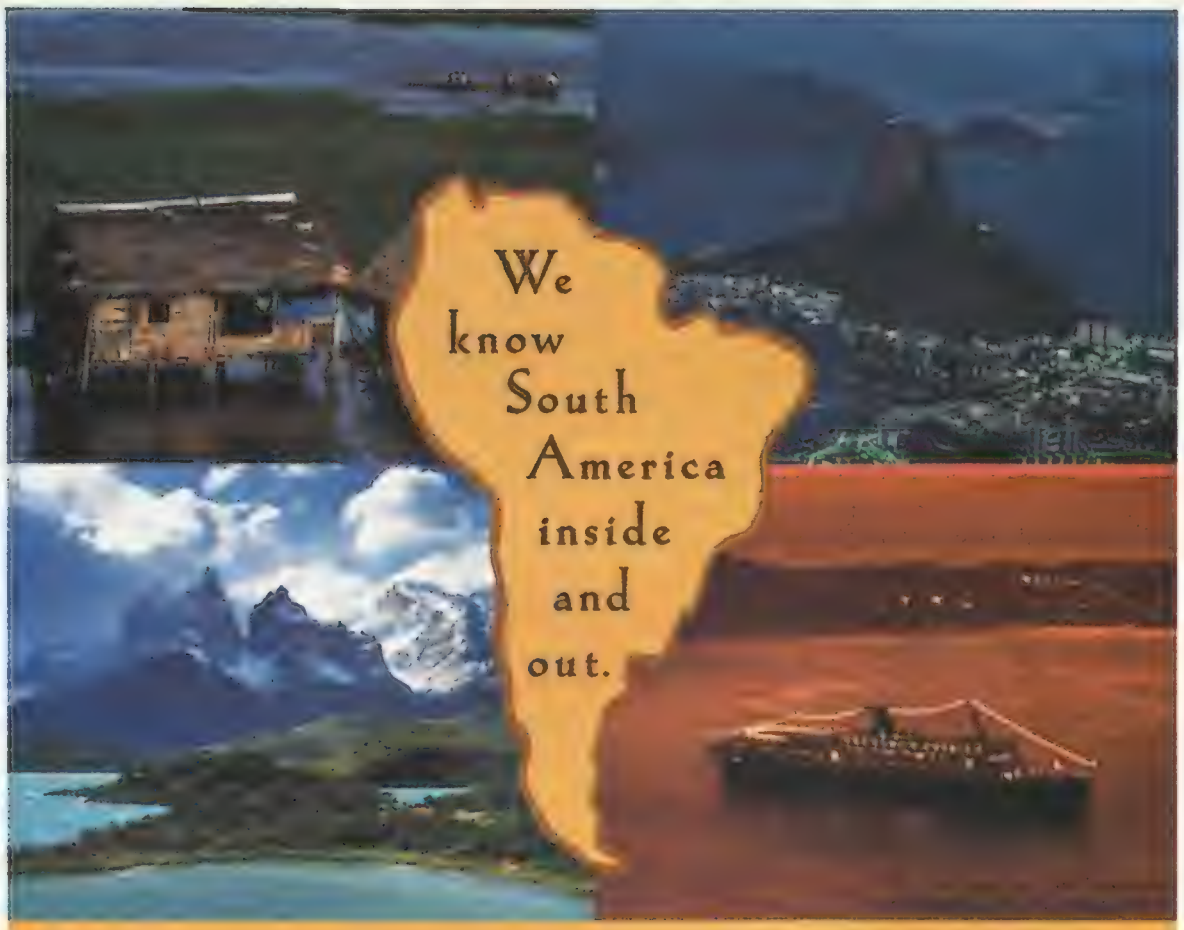
COSTA RICA

NO ARTIFICIAL INGREDIENTS

1-800-343-6332

http://www.tourism-costarica.com

ICT - COSTA RICA TOURIST BOARD



25 years ago, we began cruising in South America. Today, our friendly, experienced Greek crew guides passengers to 20 South American destinations. The 11-30 day cruises include the Amazon, Straits of Magellan, Chilean Fjords and Carnival in Rio. For reservations or a brochure on South America, the Panama Canal or Land of the Maya, see your travel agent or call us at 800-872-6400.

Royal Olympic Cruises
Sun Line Cruises Epirotiki Cruise Line

SM1196 c/o Sun Line Cruises Inc., One Rockefeller Plaza, NY, NY 10020. 212-397-6400.

Arthur M. Sackler Gallery
Art of the Persian Courts (November 3 - April 6, 1997) Paintings, manuscripts, drawings, reveal the spread, influence and effect of Persian culture across the Islamic world from the 14th to 19th centuries.
Paintings by Masami Teraoka (through December 1) Works by the contemporary Japanese-born artist.

Hirshhorn Museum & Sculpture Garden
Directions—Rudolf Schwarzkogler (November 7 - January 20, 1997) Photographs document the Austrian artist's expressionist body art from the 1960s.
The Collection in Context: Paul Gauguin (November 20 - May 7, 1997) Show explores artist's "Cylinder Decorated with the Figure of Hina and Two Attendants."

Arts and Industries Building
Points of Entry (November 1 - January 1, 1997) Exhibition surveys photography's role in documenting immigration.
Stories of the People (through August 10, 1997) Show features artifacts from the National Museum of the American Indian.

The Castle—Great Hall
Smithson's Gift Permanent display tells the story of the bequest that founded the Smithsonian 150 years ago.

Home rentals: 800-SEA-ISLAnd.
Outside U.S.: 912-638-3611.
Vanity? Hardly. More a choice between anonymity and relationship.
On our part, something we learned serving families for as many as five generations. For you, an intangible comfort when you leave home for a distant shore.
The Cloister. Sea Island. Mobil Five-Star accommodations with spontaneous warmth. World class golf. Wonderful dining. Yes, five miles of private beach, tennis, spa, skeet and horseback outings, too.
You could go anywhere.
But you are uniquely welcome here. To arrange a visit or inquire about cottage and estate residences, call 800-SEA-ISLAnd. The Cloister. Sea Island, Georgia 31561.
Who you are matters.
Sea Island THE CLOISTER
Reserve now for Bridge festivals, upcoming Spa programs, Food/Wine Classic XIII, Financial Seminar.

S. Dillon Ripley Center, Rotunda Gallery
Strong Hearts: Native American Visions and Voices (through January 5, 1997) Works by 25 Native American photographers picture the multifaceted lifestyles of American Indians.

Anacostia Museum
Museum Renovation The museum is closed for renovation for approximately ten months.

Heye Center, National Museum of the American Indian (New York City)
Woven by the Grandmothers: 19th-Century Navajo Textiles from the National Museum of the American Indian (through January 8, 1997) The importance of weaving as an expression of Navajo life.
Contemporary Navajo Weaving: The Gloria F. Ross Collection of the Denver Art Museum (through January 8, 1997) Show explores the artistry of modern weaving.

Cooper-Hewitt, National Design Museum (New York City)
Mixing Messages: Graphic Design in Contemporary Culture (through February 16, 1997) Major exhibition showcases U.S. graphic design, 1980 - 1995.

Highlights Continued

Eyewitness to history

During his more than 40 years in the Washington bureau of the *New York Times*, photographer George Tames created an unparalleled visual record of American politics in the postwar era. Born in Washington, D.C., Tames grew up in the shadow of the Capitol—the backdrop against which the cast of players he would later document acted out their parts. In 1938, at age 18, he went to work as a copyboy for *Time* magazine, carrying equipment for the photographers, writing captions, learning the trade. Seven years later, he was hired as a photographer for the *New York Times*. As such, he enjoyed access to people and places that few reporters ever saw, adroitly managing to make images that conveyed information without betraying trust. His discerning eye, instinct for a good picture and boundless faith in the democratic process enabled him to frame a new kind of journalism, providing insights into the personalities and political styles of his subjects.

"Image of the President: Photographs by George Tames, 1944-1974,"on view through September 1, 1997, at the National Portrait Gallery, features Tames' portrayals of American Presidents from Franklin Roosevelt to Gerald Ford. As an eyewitness to history, Tames covered John F. Kennedy during the Cuban Missile Crisis, photographed Lyndon Johnson during his first week in the Oval Office and met Richard Nixon on the campaign trail. "The Capitol and the White House, their inhabitants and would-be inhabitants, have been my subjects for a half-century," he wrote. "Some I thought of as friends. . . . All of them I came to know well, for the same camera lens that flatters also reveals."
Diane M. Bolz

In his portrait of Dwight Eisenhower arriving at the 1952 Republican Convention in Chicago, Tames aptly caught the candidate's greatest campaign asset—a buoyant vitality that engendered loyalty.

HOW FAST ARE YOU GOING?

Are you keeping up?

Or falling behind?

Have you checked your speed lately?

Are you even moving?

Or lingering in neutral?

Today, technology

is moving things forward

fast.

Maybe it's time to punch it.

The new Chrysler LHS

CAB-FORWARD DESIGN. DRIVER-ADAPTIVE TRANSMISSION. 24-VALVE 214 HP ENGINE. SPEED-SENSITIVE STEERING. SELF-ACTIVATED HEADLAMPS. PERSON

What's new in your world?

URITY SYSTEM. 11-SPEAKER CHRYSLER INFINITY SPATIAL IMAGING™ SOUND SYSTEM. INQUIRIES, 1-800-4-A-CHRYSLER. WEB SITE, www.chryslercars.com

By Donald Dale Jackson

Red, Hot & Blue

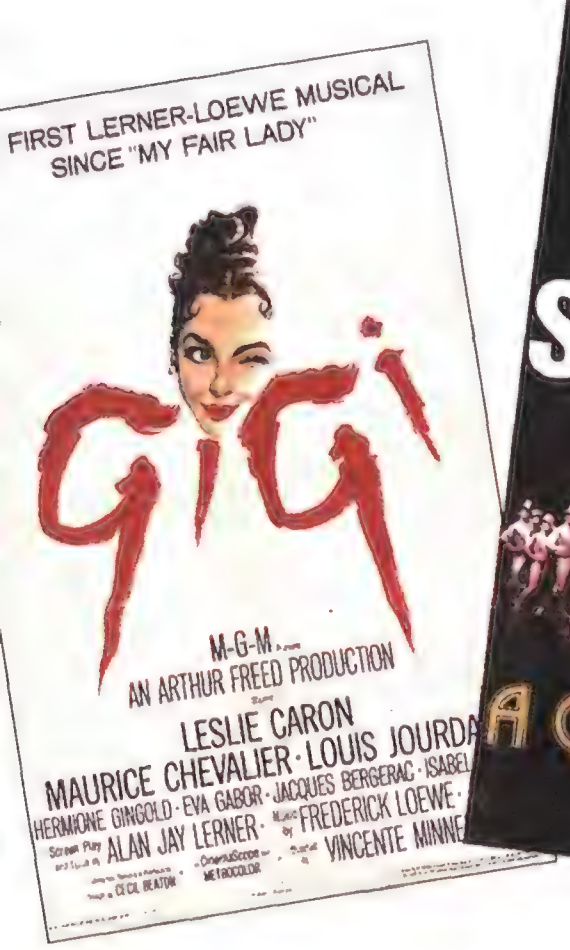
The Smithsonian

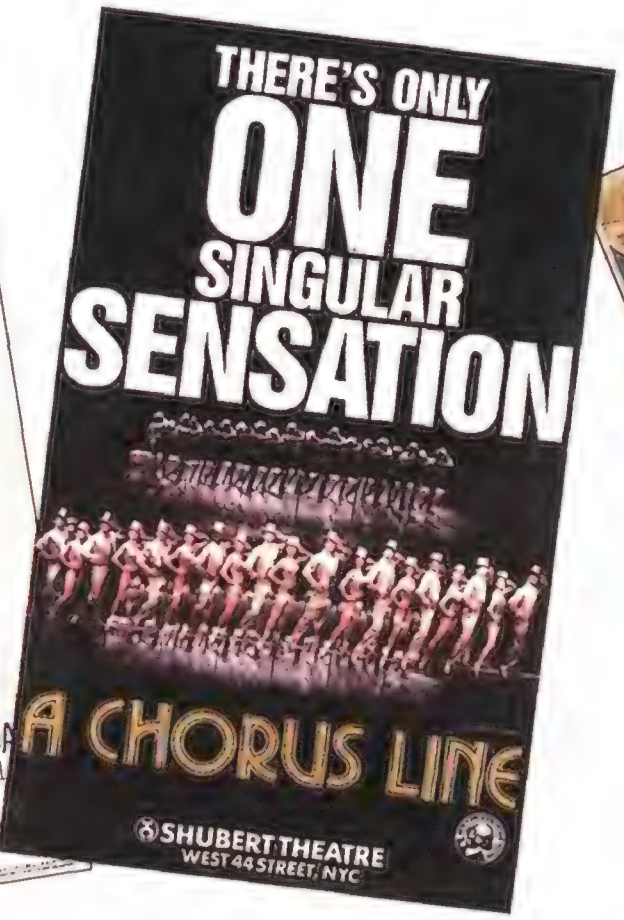
Carol Channing performs her show-stopping staircase number as the irrepressible Dolly Levi in Jerry Herman's *Hello, Dolly!*

Pick a moment: Carol Channing as Dolly Levi, regally descending that spectacular staircase at the Harmonia Gardens and looking for an empty lap, in *Hello, Dolly!*; the brass band to end all brass bands parading through River City, Iowa, in *The Music Man*, with 76 trombones and 110 cornets in the vanguard; the vulnerable, insecure young dancers in *A Chorus Line* magically evolving into "one singular sensation," a polished and professional troupe. (Go back to the dynamic Al Jolson in a now-forgotten 1918 show called *Sinbad*, in which all Jolson did was belt out "Swanee," "My Mammy" and "Rock-A-Bye Your Baby.") The great numbers of the musical theater are part of our heritage and our collective consciousness, part of what defines and unites us as Americans. We all know the words. Musicals are also something that we happen to do better than anyone else. As critic Brooks Atkinson wrote, the musical stage is "the one department of the theater in which Broadway excelled. In pace, skill, variety and zest it was unrivaled. Occasionally, it was also art." The joy and spectacle of Broadway and

Celebrates American Musicals

Hollywood musicals are on display in the exhibition "Red, Hot & Blue: A Salute to American Musicals," which opened October 25 at the National Portrait Gallery. It runs to July 1997 and features photographs, posters, set models and show biz artifacts. Sponsored by Discover Card, along with the Ira and Leonore Gershwin Trusts, the Shubert Foundation and Harold Prince, the exhibition was curated by historians Amy Henderson of the Portrait Gallery and Dwight Blocker Bowers of the National Museum of American History. Henderson, who sang in community theater productions of *Bye Bye Birdie* and *West Side Story* while growing up in Wisconsin, dreamed up the idea of the exhibition six years ago. A cultural historian, she knew Bowers as "a walking encyclopedia of musical theater" and invited him to collaborate. "She said 'What if?' and I said 'Why not?'" Bowers recalls, and they set about gathering material and interviewing. Henderson talked to Ginger Rogers. "She was still girlish, still had that freshness, and she remembered every detail of her movies with Fred Astaire." The two historians collaborated also on a companion book and a set of recordings. "What we try to do is recapture the energy that audiences at the great shows must have felt," Bowers says. "Amy's the realist, I'm the romantic. I cry. She thinks. We both laugh." The exhibition is divided into five chronological sections from 1866 to the recent Hal Prince revival of the trailblazing *Show Boat*. The approach, as befits the Portrait Gallery, is biographical, with sketches and photographs of stars like Ethel Merman and Gene Kelly, composers like Irving Berlin and Cole Porter, and impresarios like Florenz Ziegfeld. The American voice that emerges between the early slapdash revues and the elegant culmination of Rodgers and Hammerstein is idealistic, inclusive, bold and ever hopeful—"It's the sense of hope that I like best about musicals," Bowers says—though in recent years the voice has fragmented and wandered off in new and still uncertain directions. "Musicals played a formative role in our collective mythmaking for nearly a century," Henderson and Bowers write, "giving us the words and music for the American dream."

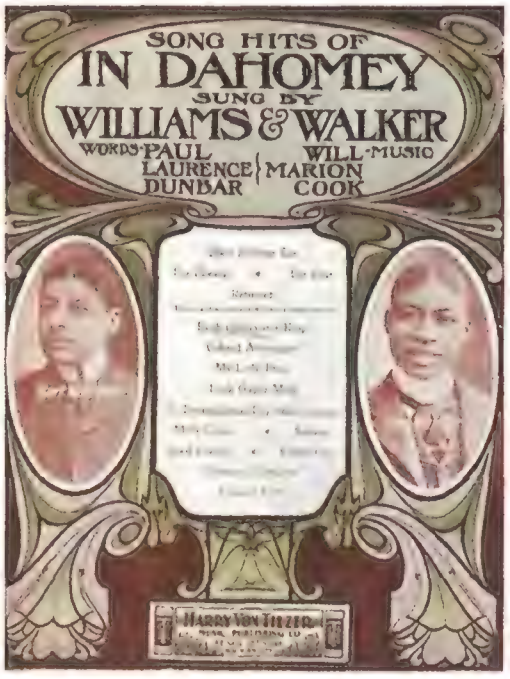




△ Iowa-born Lillian Russell rose to fame on a foamy cloud of European light opera. Of her smile, an admirer wrote that it expressed "all that can live within a black satin gown."

△ Joe Weber (the short one) and Lew Fields were a socko comedy team at the turn of the century. The pair's innovations included the custard pie in the face and the "Who was that lady?" jokes.

△ Bert Williams (right) and George Walker share a kick with Adah Walker in *In Dahomey* (1903). The show was one of the earliest Broadway musicals written and performed by African-Americans.



From Vaudeville to Musical Theater, 1866 - 1906

△ When klaxon-voiced Sophie Tucker added suggestive songs to her repertoire, one critic wrote that while "some of her songs are red, white and blue, some omit the red and white."

VICTOR HERBERT'S MASTERPIECE
AH! SWEET MYSTERY of LIFE
Lyric by Rida Johnson Young
The Dream Melody from Naughty Marietta
M. WITMARK & SONS

◁ George M. Cohan makes up in his "Yankee Doodle Boy" dressing room. Rarely praised by critics, Cohan scored with *Little Johnny Jones* in 1904 and *George Washington Jr.* in 1905.

He may or may not have been born on the 4th of July, as he always said he was. And he didn't spring full-blown from the sidewalks of his beloved Broadway but was born instead into a theatrical family in Providence, Rhode Island. But when George M. Cohan hit his stride in the first few years of the 20th century, the American musical theater had its first dominant mainstream voice. Cohan's flag-waving, streetwise and tuneful shows for the average man—his name for his target audience was "Joe Blatz"—were the culmination of 40 years of what curators Henderson and Bowers call a "commotion of cultures" on the American musical stage. "Variety" had evolved into vaudeville, and the crazy-quilt ethnic mix of Irish, African-American, German and other dialect-heavy acts had slowly dissolved into the all-American energy of Cohan. When impresario Tony Pastor and the Irish-American writing and performing team of Ned Harrigan and Tony Hart flourished in the 1880s and 1890s, the musical theater was a discordant medley of a half-dozen different strains. Joe Weber and Lew Fields, with their checkered-coat-and-chin-whiskers "Dutch" routines, preserved the slapstick tradition. Bert Williams and George Walker capitalized on the popularity of minstrel shows to introduce musicals written and performed by African-Americans and to teach the high-stepping dance called the cakewalk. Polish-born Sophie Tucker, who had spurned the Yiddish stage in favor of mainstream musicals, emerged with Lillian Russell as the first of a long and lustrous line of musical leading ladies—"when you think of musicals, you think of leading ladies," Bowers says. The cultural commotion simmered down after the turn of the century and left the spotlight on the multitalented Cohan, who wrote his scores by whistling the melodies to a musical copyist. And what melodies! "Give My Regards To Broadway," "You're a Grand Old Flag," "The Yankee Doodle Boy" and "Harrigan," to name a few. Cohan's art, Oscar Hammerstein II once explained, was "to say simply what everybody was subconsciously feeling."

First there were the girls—drop-dead beautiful, elegantly if often minimally costumed. There were the memorable songs—Irving Berlin's "A Pretty Girl Is Like a Melody," "Mandy," "Shine On, Harvest Moon"—the sumptuous, ingeniously lighted and layered sets by the brilliant Joseph Urban, and finally the stars: Fanny Brice singing "My Man," Eddie Cantor cavorting in blackface, the demure Marilyn Miller crooning "Look for the Silver Lining." The Ziegfeld Follies were the lavish and dazzling summit of Broadway entertainment in the era that put the biz in show biz. Florenz Ziegfeld and his rivals, the Shubert brothers, redefined and strengthened the role of the producer while bringing business and management techniques to the musical stage. "This was the Industrial Revolution come to show business," Dwight Bowers says. "Ziegfeld was a stylish Barnum. The Shuberts were the theatrical equivalent of railroad barons." Together they packaged and marketed musicals like any other product, with a savvy and pizzazz that were unmistakably American. Ziegfeld, born in Chicago, broke in as a talent scout and launched his Follies in 1907. His gift was a winning mix of crowd-pleasing entertainment with a touch of high culture. Famously extravagant, Ziegfeld outfitted his star Marilyn Miller, in one Follies, in a new costume for every performance—at $175 per copy. The Shuberts—brothers Sam (who died young), Lee and J.J.—were as tightfisted as Ziegfeld was open-handed, but they established a chain of well-managed theaters and helped promote the modern road company, among other achievements. The Shuberts' most glittering star, Al Jolson, was a talent so formidable that a stage could barely contain him. The era of impresarios culminated in 1927 with the breakthrough musical *Show Boat,* produced by Ziegfeld with a score by Jerome Kern and lyrics by Oscar Hammerstein II. *Show Boat* was something totally new, a cohesive blend of book, story and music that tackled a classic American theme—and touched the American soul.

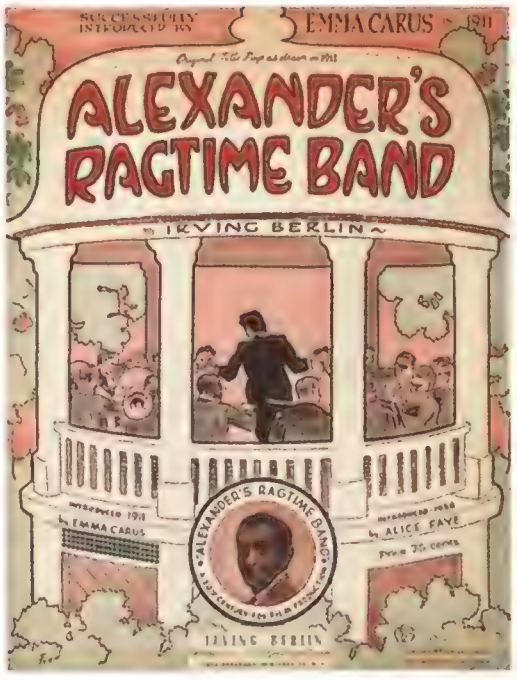
△ The finale of Act I of Florenz Ziegfeld's *Show Boat* (1927), which critic Brooks Atkinson called "one of those epochal works about which garrulous old men gabble for 25 years."

◁ Banjo-eyed Eddie Cantor made his vaudeville debut at 15, became a Ziegfeld star in 1917. One of Broadway's great clowns, Cantor was known as the "Apostle of Pep."

△ The songwriting team of Noble Sissle (left) and Eubie Blake wrote the long-running *Shuffle Along* (1921), which featured the undisputed hit of the score, "I'm Just Wild about Harry."

Soprano Florence Mills turned down Ziegfeld and became the toast of London. When Mills returned in 1924 to star in *Dixie to Broadway*, she was called the "sensation of two continents." ▷

Never famed for her beauty, Fanny Brice was a Ziegfeld headliner for years. In her first performance in the Follies, the singer-comedienne received a dozen encores. ▷



He didn't look like much—average height, whip-thin, sparsely endowed on top. A talent scout once summed up Fred Astaire this way: "Can't sing, can't act, slightly bald. Can dance a little." But his magnificent, effortless-looking dancing had already brought him Broadway stardom when Astaire, along with most of the greatest talents in the musical theater—Cole Porter, the brothers George and Ira Gershwin, Richard Rodgers and Lorenz Hart, and dance director Busby Berkeley—changed venue from New York to Hollywood in the 1930s. Broadway was hit hard by the Depression, and movie musicals got a kick start with the introduction of sound. "Broadway and Hollywood were never separate, never two bubbles, but always a continuum," Amy Henderson explains. "They're intertwined." The toe-tapping films that blossomed in 1930s Hollywood expanded the audience for musicals enormously while democratizing the form, making it truly mass entertainment. For the first time almost everyone in America was seeing the same shows, flicking on the same radio programs, humming the same tunes. Each studio had its special province: Warner Brothers had Busby Berkeley, with his brilliantly imaginative, sometimes surrealistic dance numbers in films like *42nd Street* and *Gold Diggers of 1933*. RKO had Astaire and Ginger Rogers gliding glamorously through *Top Hat* and *Shall We Dance* with their eyebrows slightly arched. Fox had Shirley Temple, who at age 9 in 1937 was Hollywood's highest-paid star. MGM had a pair of talented teams in Mickey Rooney and Judy Garland and Nelson Eddy and Jeanette MacDonald. On Broadway and in Hollywood the decade of the 1930s was a time of an emerging wit and sophistication in lyrics, especially in the work of Cole Porter, Lorenz Hart and Ira Gershwin. Ira's brother George, perhaps the closest thing to a musical genius the era produced, wrote a legitimate successor to *Show Boat* in *Porgy and Bess* (1935). *Girl Crazy* (1930), a more conventional Gershwin show, launched the career of a singer who proved she could hold a high C for 16 bars—the siren-voiced Ethel Merman.

OVER the RAINBOW
Words by — E. Y. HARBURG.
Music by — HAROLD ARLEN.
THE WIZARD OF OZ
JUDY GARLAND
FRANK MORGAN · RAY BOLGER ·
BERT LAHR · JACK HALEY ·
· BILLY BURKE ·
VICTOR FLEMING

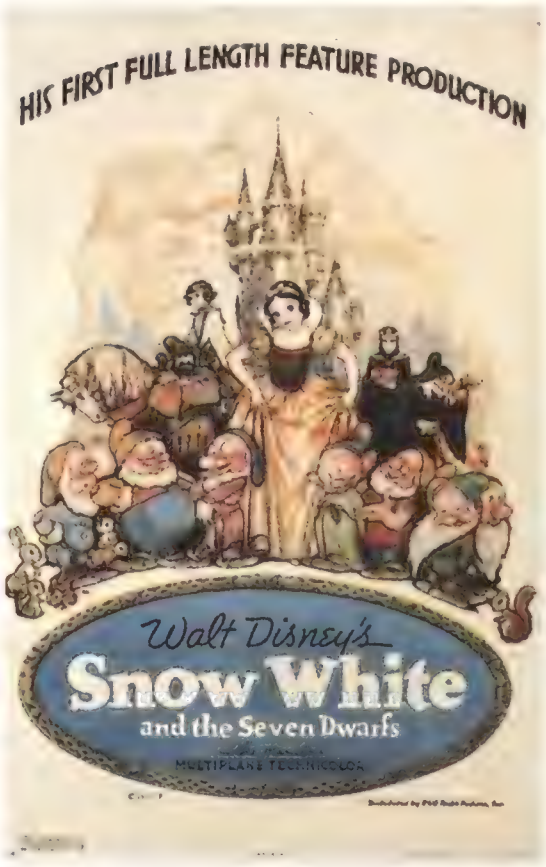
△ Busby Berkeley's revolving "human fountain" of girls was elevated hydraulically above a reflecting pool during the showstopper "By a Waterfall" in *Footlight Parade* (1933).

Broadway and Hollywood, 1927 - 1942

◁ Cole Porter, the composer of *Anything Goes* (1934), moved easily between Broadway and Hollywood, dispensing what a biographer called a "message of civilized cheer."

△ Fred Astaire (left) plays a duet with George Gershwin as Ira Gershwin looks on. The three combined talents in *Shall We Dance* in 1937, the same year George died of a brain tumor.

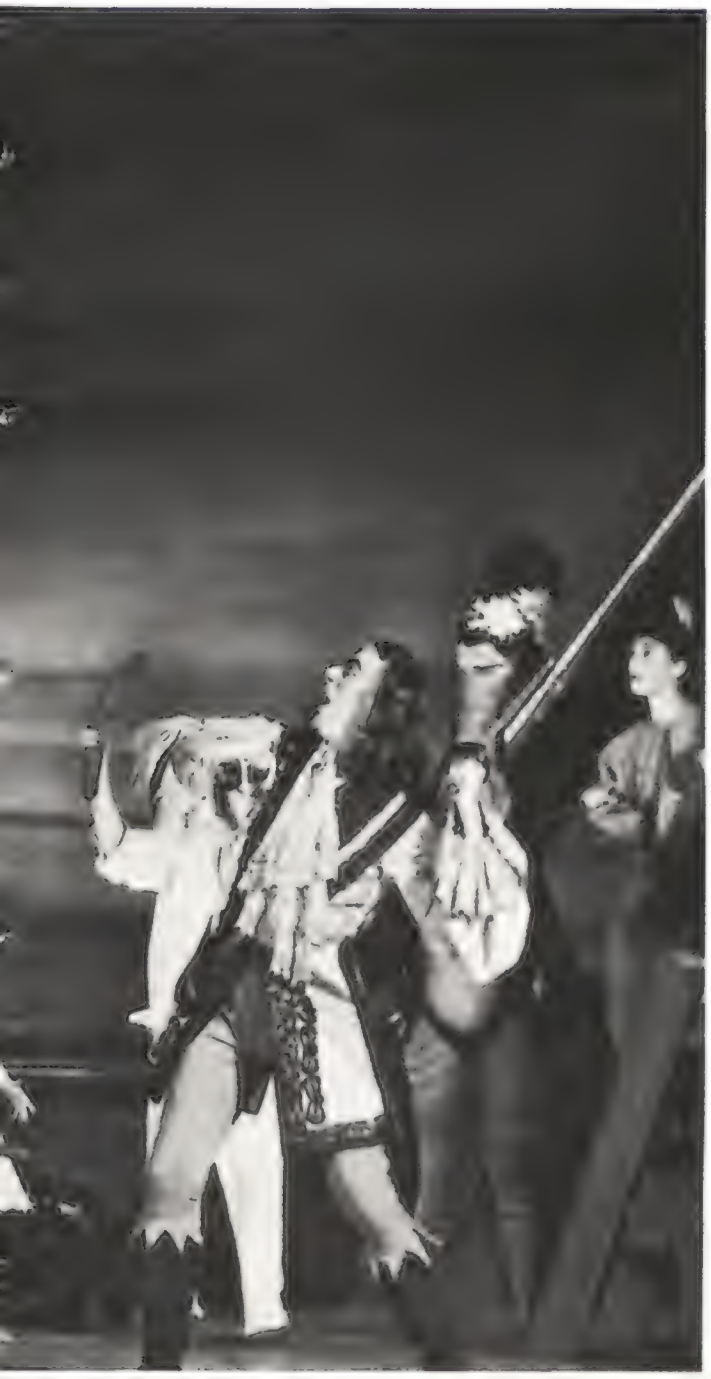
◁ Gertrude Lawrence starred in Moss Hart's *Lady in the Dark* (1941), an intriguing attempt to mate musical comedy with psychoanalysis—at the time, a theme thought wildly avant-garde.



It sounded like a long shot—a musical about ordinary folk in early-20th-century Oklahoma. Jerome Kern wasn't interested. Showman Mike Todd is credited with the dismissive prediction "No gags, no girls, no chance." So Hart's partner, Richard Rodgers, and veteran lyricist Oscar Hammerstein II decided to try it. The result was *Oklahoma!* (1943), a record hit that both transformed the musical stage and launched a golden age of Broadway and Hollywood musicals. The show's breakthrough was integrating Agnes de Mille's choreography into the story line, but it also marked the first joint venture of the finest and most influential creative team in Broadway history, and the beginning of a long and lucrative theatrical infatuation with Americana. Nostalgia for our small town past emerged in musicals simultaneously with a celebration of urban culture; the line that begins with *Oklahoma!* and continues to *The Music Man* (1957) parallels another stretching from *On the Town* (1944) to *West Side Story* (1957). In the 1940s and 1950s, Dwight Bowers says, "the audience was there, the money, the freedom to try new things, the spin-offs in films and recordings." And almost everything came up roses. The facile Rodgers, who could write a song in 10 or 15 minutes, and the more painstaking, more soulful Hammerstein followed up with the equally innovative *Carousel*, then *South Pacific*. Their only rivals were lyricist Alan Jay Lerner and composer Frederick Loewe, who wrote *Brigadoon* in 1947 before producing their masterpiece, *My Fair Lady*, in 1956. Composer Leonard Bernstein and director-choreographer Jerome Robbins musically evoked New York in *On the Town*, *Wonderful Town* and, triumphantly, *West Side Story* (which shifted the Romeo and Juliet story to the city's mean streets). In Hollywood, Vincente Minnelli directed a series of ebullient musicals, from the nostalgic *Meet Me in St. Louis* (1944) to the Gene Kelly film *An American in Paris* (1951) and *Gigi* (1958). Like the great Broadway shows of this era, these movies combined story, setting and music in what one film historian called an "effusion of joy."

Mary Martin flew through the air as Peter Pan on Broadway and later on television. But it was her role as Nellie Forbush, an all-American girl, in *South Pacific* that bestowed star status. ▷

◁ When Martin, in *The Sound of Music*, bested Ethel Merman for the 1959 Tony, the star of *Annie Get Your Gun* and *Gypsy* quipped: "You can't buck a nun."

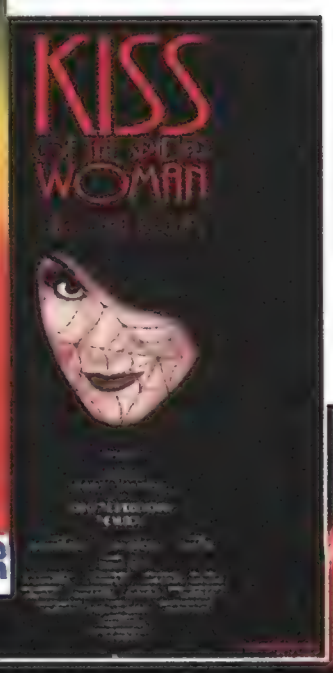


Leonard Bernstein is at the keyboard next to Jerome Robbins as lyricists Betty Comden and Adolph Green try out a number for their 1944 show *On the Town.* ▷

Alan Jay Lerner and Berliner Frederick Loewe collaborated on the fantasy *Brigadoon* before writing *My Fair Lady,* with its period costumes by British designer Cecil Beaton. ▷

◁ The rumble scene from *West Side Story* was choreographed by Jerome Robbins, who reportedly quarreled with composer Leonard Bernstein about cuts—music vs. dance.

Liza Minnelli and Joel Grey go chin-to-chin in the film version of *Cabaret* (1972), the bleak portrait of 1930s Berlin that won Oscars for both stars and director Bob Fosse.



Producer Hal Prince (left) and composer Stephen Sondheim worked together on *West Side Story* and, in the 1960s and '70s, on *Company*, *Follies* and *Sweeney Todd*.

△ Bernadette Peters, perhaps the best of the younger generation of musical leading ladies, played mother and daughter in Sondheim's *Sunday in the Park with George* (1984).

◁ Gregory Hines dances in *Jelly's Last Jam*, a 1992 show based on the life of jazz great Jelly Roll Morton. "We definitely have to entertain," Hines says, "and we also like to make people think."

The blockbuster shows that everyone saw, the songs that everyone sang, the superstars that everyone knew—by the 1960s all were dwindling and declining. Broadway and Hollywood musical comedies were neither as musical nor as comic as they had been; the genre had lost its mainstream appeal—and perhaps lost its way. Where a few years earlier shows like *South Pacific* and *My Fair Lady* had permeated the culture, the musical mainstream was now meandering in different directions. One modern strain, exemplified by composer Jerry Herman and the show *Hello, Dolly!* (1964), followed the Cohan-Ziegfeld-Berlin tradition. Was it too commercial? That, Herman said, was like calling a bride "too pretty." A second category was the concept musical, a specialty of producer Hal Prince and composer Stephen Sondheim, in which the story line is replaced by an idea, as in *Follies*, with commentary substituting for narrative action. There was also the emergence of the alternative musical in the counterculture anthem *Hair* (1967) and shows with an authentic African-American voice like *Jelly's Last Jam* (1992) and *Bring in 'da Noise, Bring in 'da Funk* (1996). The lyric stage, as always, reflected the culture. "American society was fragmenting and it was more difficult to connect," Amy Henderson points out. It was also more costly to mount a musical or to attend one; Hollywood, with a few splendid exceptions like *Cabaret* and *Fiddler on the Roof*, all but withdrew from the musical business. Still, the American musical soldiered on. Choreographer-directors like Bob Fosse (*Cabaret*) and Gower Champion (*Hello, Dolly!*) had a larger role in shaping shows. Though star power dimmed, there were still luminous performers like Liza Minnelli, Barbra Streisand and Bernadette Peters. If Sondheim's shows depicted an angst-ridden, conflicted, disconnected society, they were also an honest look at our times. The American musical may not have found a single modern voice, but its gifted creators are still displaying the skill, verve and sheer ebullience that have brought so much joy to so many for so long.

The Chevy™ Tahoe® is the one sport utility vehicle whose boundless size and infinite comfort ma

Excludes other GM vehicles. ©1996 GM Corp. Built in America.

I NEVER FOUND THE COMPANION THAT WAS S

the perfect place to quietly discover yourself. http://www.chevrolet.com 1-800-950-TAHOE

OMPANIONABLE AS SOLITUDE. - Thoreau

TAHOE
LIKE A ROCK

By David Roberts

Tracking a vanished people through the Sierra Madre

In 1890, Carl Lumholtz pushed into Mexico, on a search for the ancient culture now known as the Anasazi. Instead, he found the Mogollon

The dim light of dawn gave shape to the recesses inside the cave. Ranged along its walls, the ruins of a dozen adobe rooms, built by the ancients more than five centuries before, stood as testimony to some vanished lifeway. Soot from campfires immemorial coated the ceiling of the alcove. All across the Southwestern United States I had found cliff dwellings that vaguely resembled this collection of back-to-back mud houses. But never had I seen anything that looked like the bizarre structure standing in the center of the site, dominating the cave.

Twelve feet tall, made of coiled grass rope plastered with mud, it swelled from a small base to bulbous proportions, then tapered to the tiny hoop of its open roof, a few feet below the cave ceiling. The combined efforts of rodents, vandals and the winds of eons had worn holes in it, and the whole thing looked precarious.

That May morning, photographer Terrence Moore and I lingered inside Cueva de la Olla, in the remote Cave Valley in the mountains of the Mexican state of Chihuahua. One hundred and five years before our visit, the Norwegian explorer Carl Lumholtz had made the Western discovery of this remarkable ruin.

Vase-shaped granary dominates Mogollon dwelling in Mexican state of Chihuahua. Drawing of another site, published in Lumholtz's memoirs, shows man near similar structures. (Building in front not drawn to scale.)

Lumholtz's Mexican workers had called the bulging structure (above) an *olla*, or "jar," insisting it must have been used as a cistern. But Lumholtz at once deduced—rightly, we know now—that it had been a granary for storing corn. Terry and I had seen many a granary built by the ancient Anasazi in the Four Corners region of what is now the United States: they tended to be small, neatly mortared cubicles with stone slab doors. The "olla" was not only by far the largest, but certainly the strangest granary we had ever seen. It had been crafted by a different people altogether from the Anasazi. Archaeologists know them as the Mogollon (pronounced muggy-OWN).

On that January day in 1891 when he discovered the granary, Carl Lumholtz had scarcely begun a journey that would last a total of six and a half years and would amount to one of the most glorious wild-goose chases in North America. Four years earlier he had conceived his expedition. Though Cliff Palace on Mesa Verde, the largest cliff dwelling in the United States, would not be discovered until the following year (SMITHSONIAN, December 1993), by 1887 word of the remarkable prehis-

Photographs by Terrence Moore

Once a divinity student, Carl Lumholtz studied the indigenous peoples of Australia, Borneo and Mexico.

toric ruins scattered across the Southwest had already reached Europe.

Lumholtz made a logical but fallacious deduction. The builders of those stone-and-mud ruins had vanished, yet Spanish explorers in the 16th century had come across Indians living in kindred villages in Mexico. Perhaps the ancients had retreated into the vast Sierra Madre of northern Mexico, where they still flourished unknown to Mexicans and Anglos alike.

During those six and a half years in northern Mexico, Lumholtz found not a single living Anasazi (as the builders of the great Four Corners ruins would come to be called in the 1930s). Curiously, Lumholtz overlooked the possibility that many of the Pueblo Indians living at Hopi, Zuni and some 20 villages near the Rio Grande might be the descendants of the Anasazi—a possibility that, by 1890, had already been divined by several American ethnographers working in the Southwest.

As he set off into the Sierra Madre, Lumholtz was 39 years old. Raised in Lillehammer, he had studied dutifully for the priesthood, a vocation his father had chosen for him, but the strain of pursuing a theology degree brought on a nervous breakdown. After recuperating, on solo jaunts into the mountains of central Norway, Lumholtz was moved to tears of joy by such sights as sunlight streaming through willow leaves reflected in rainpools. "Love of nature took stronger and stronger hold of me," the explorer recalled at age 70, "and one day it occurred to me what a misfortune it would be to die without having seen the whole earth."

Armed with a second university degree in natural science, in 1880 Lumholtz set off on a zoological expedition into the wilds of northeastern Australia. His journey began as a classic Victorian collecting trip, and the young savant bagged his catch of new species—notably, the tree kangaroo (*Dendrolagus lumholtzii*). Yet, during nearly four years in Queensland, Lumholtz ventured again and again into remote territory inhabited only by aborigines. He claimed to be the first European to dare such forays alone, where the collective wisdom of the British colonists decreed, "Never have a black fellow behind you."

Lumholtz's sojourn among the aborigines was indeed a risky proposition. In his memoirs, the explorer credits his safe passage to the intimidating magic of his revolver, which he often shot off before going to bed as a reminder of "the white man's superiority." But it is clear that his fearless curiosity, his gift for song and language, and his willingness to try out an aboriginal way of life—his favorite dish, he reports dryly, was "the larva, eaten toasted, of a large brown beetle"—served to surround Lumholtz's figure with a charmed aura.

His Australian adventure led to a stirring book, *Among Cannibals*, written in English and published in Copenhagen. As he set out for Mexico in 1890, he had come to realize that "the study of savage and barbaric races has . . . become my life's work."

As that phrase suggests, the young Lumholtz was steeped in the ethnocentric condescensions of his day. Despite his admiration for the skills of the peoples he had visited, he could still refer to the aborigines as "a race of people whose culture—if indeed they can be said to have any culture whatever—must be characterized as the lowest to be found among the whole genus *homo sapiens*." Mexico would profoundly change the smug European.

In New York City, Lumholtz won friends and sponsors: his first Mexican expedition was generously supported by the American Museum of Natural History (AMNH) and the American Geographical Society. With an entourage of scientists, packers and nearly a hundred horses and mules, Lumholtz started south from Bisbee, Arizona, in September 1890. The party passed through such dusty Mexican hamlets as Opoto, Guasavas and Granados. Then they turned east, climbing into "that

David Roberts reported on a Mogollon village in Arizona in March 1992 and became familiar with the Sierra Madre while doing a book on the Apache.

Into each life some rain must fall.

So, we've made our new Squall™ Jacket *ten times* more water resistant.

You never know when you're going to be dumped on.

In the morning, the weather forecast calls for windy and cold. And by mid-afternoon, you're caught in a downpour.

Well, if you must get caught, it better be in our improved Lands' End® Squall Jacket.

Because after a dozen years of making the Squall better and better, we've now made it drier, too.

Not just a fair-weather friend.

Its outer shell – a rugged, 3-ply Supplex® nylon – sheds water like never before.

You see, we've had it treated with MPX™ – a new microporous coating (meaning, a coating with tiny pores that let body moisture out, but keep rain from getting in).

In an ordinary Supplex jacket without this treatment, you could walk in a steady downpour for maybe 200 yards before the wet started to seep through. In our new Squall, you can walk a mile.

The outer shell also happens to be 100% windproof. Yet, it's still very breathable – very *comfortable* – no matter what outdoorsy thing you're up to.

If at first we succeed, we try again.

Of course, this new improvement follows on the heels of lots of old improvements.

One year (1987, it was) we began to make the inner lining of Polartec™ 300 fleece – a man-made fleece twice as warm as natural fibers.

And 1994 was a very good year, too. We put 100-gram Thinsulate™ insulation in the sleeves. It keeps you warm – but because it's so thin, there's less bulk to get in your way.

And way back in '84, we added a storm flap behind the zipper – our first line of defense against the wind.

Seems that's our way at Lands' End: we just can't leave well enough alone.

Will it be crummy again tomorrow?

Into each life, not only rain but snow and sleet and much else must fall.

So, in our Lands' End catalog, we feature page after page of other outerwear. And every stitch is as well made, and thoughtfully designed, as our Squall.

If you'd like to see a copy of our catalog, just say the word.

"Squall," for example.

© 1996 Lands' End, Inc.

LANDS' END® DIRECT MERCHANTS

Guaranteed. Period.®

For our free catalog, call any time,
1-800-990-5423 Please mention ad PL

Name _____

Address _____ Apt. _____

City _____ State _____ Zip _____

Phone ( ) _____ Day/Night *(circle one)*

Mail to: 1 Lands' End Lane, Dodgeville, WI 53595
http://www.landsend.com/catalogs

great and mysterious mountain range called the Sierra Madre," a region "never visited by tourists" and "foreign even to most Mexicans."

Expecting to run across signs of the desperate remnant Apache bands rumored still to be hiding there, and hoping to meet living "cliff dwellers," Lumholtz plunged into the mountains with the joyful verve of a seasoned explorer. The jagged crests, V-shaped gorges and all-but-waterless streambeds of the Sierra Madre sorely tested the party.

Instead of furtive Apaches or flourishing Anasazi, the explorers everywhere found what Lumholtz called "traces of a by-gone race." These ranged from mere scatterings of potsherds and flint flakes to the ubiquitous stone check dams (some as tall as 15 feet) built across rivulets to shore up terraces for planting. On mesa tops, Lumholtz found pueblos of a hundred or more rooms, the walls half collapsed, grinding stones and basins lying discarded in the grass. In midwinter, having crossed the divide from Sonora into Chihuahua, the party began to discover cliff dwellings, such as the extraordinary Cueva de la Olla. Many archaeologists today believe that the people who had built these structures were a Mexican branch of the ancient Mogollon, who once lived in what is now the American Southwest.

In keeping with the practice of the day, Lumholtz dug every promising site, amassing large collections of artifacts and human remains, most of which he shipped back to the AMNH in New York. As the team trundled on, however, the Norwegian grew disenchanted with its unwieldy size. Gradually one scientist after another returned to the United States, and Lumholtz dismissed his Mexican muleteers, until eventually he was alone with only an interpreter.

Lumholtz's six and a half years in Mexico, during which he pushed farther and farther south, actually comprised four separate expeditions stretching over eight years. By 1892 he had realized that the only way properly to understand native peoples was to live alone among them. Eventually he would spend a total of a year and a half with the Tarahumara Indians and ten months among the Coras and Huichols.

The Gila Cliff Dwellings in New Mexico, dating from A.D. 1270-1300, are considered to be Mogollon. They share qualities both with Anasazi sites like Cliff Palace and with Mogollon cave dwellings in Mexico.

YOUR SECRET WEAPON AGAINST AGING

Methodo Medique Beauty Pads are an extremely intensive moisturizing treatment that revitalize and tone your skin while greatly diminishing the appearance of fine lines and wrinkles. Created in Europe by a renowned Italian plastic surgeon, these beauty pads were first developed to impart rapid re-hydration to promote healing for post-surgical procedures. *Methodo Medique Complete* is a comprehensive regimen of three separate ready-to-use treatments for the eyes, lips and cheek area (four applications each) that re-hydrates your skin to help fight the ravages of time and living in today's environment. Pre-cut, pure cotton surgical gauze designed for the eyes, cheek and lip area is imbued with the healing power of botanical extracts, oils and other natural ingredients. A special daily use cream maintains revitalized skin between treatments.

Simply apply the gauze pads and relax for 30-45 minutes. Remove the gauze, apply the special daily use cream that reinforces the effects of the Beauty Pads, and be prepared not to believe your eyes. *The intense re-hydration increases the blood flow and circulation to your skin, imparting heightened color, renewed skin tone and texture.* You will look refreshed, renewed and invigorated — like you just returned from a spa. Quick, easy, wonderfully gentle, and without a doubt, extraordinary. So extraordinary, in fact, that Methodo Medique has received patents world–wide. Salon and Spa tested and approved. Today, for millions of women of all ages in Europe and in 44 countries around the world, Methodo Medique is their secret weapon in the war against aging skin. Imported directly from Italy, *Medique is not sold in any store. It is sold only through The Magellan Group.* Satisfaction guaranteed or your money-back. Simply return the unused portion. Medique Eye Contour #5100. Face Contour #5200. Lip Contour #5300. ***$39.95 each.*** Add $6.95 S&H each. *Buy all three treatments and Save $30.00. Medique Complete* ***$99.95*** ($10.75 S&H) #5400.

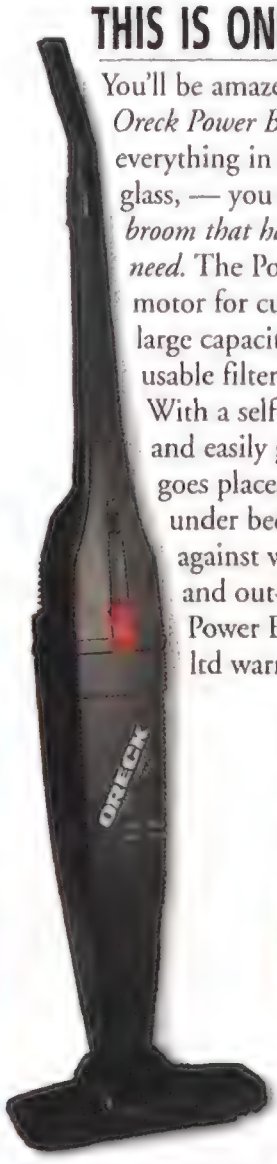
Intensive Re-hydration *Smooth Skin Facials*

Easy-to-use pre-cut pure cotton surgical gauze is designed specifically for the eyes, face and lips. Imbued with the healing power of purified botanical extracts, oils and other natural ingredients, Medique revitalizes and tones your skin while reducing the appearance of fine lines and wrinkles.

POWER CLEAN YOUR LAUNDRY WITHOUT HARSH DETERGENTS

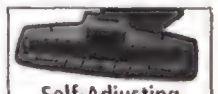
Not only are these revolutionary laundry discs as effective as detergents, but they clean without any chemicals whatsoever. *Clean Power Plus*™ is a trio of discs that use activated ceramic particles to produce ionized oxygen in the water, thereby enhancing water's natural ability to penetrate clothing fibers and lift away dirt. Test results certified by a USDA accredited laboratory confirm that these anti-bacterial discs kill the toxic E. coli and Staphylococcus aureus bacteria without harsh chemicals. These hi-tech wonders are hypo-allergenic, environmentally correct and simply better for your health. Pure water is added to the washing machine and pure water, plus the dirt from the clothes, is released. Your clothes come out clean, fresh, unscented and chemical free with no fiber deterioration, color-fading, or skin irritants common with most laundry products. Three discs will clean your clothes for two years (that's 700 loads!) and cost just pennies a load to use. With the average family spending about $150/year on detergents, bleaches and fabric softeners, this is one product you can't afford to be without! Satisfaction guaranteed or your money back. ***$49.95*** ($7.95) #7000.

DON'T BE FOOLED BY ITS SIZE – THIS IS ONE POWERFUL VACUUM



You'll be amazed with the performance of the *Oreck Power Broom.* It picks up anything and everything in its path. Dust, crumbs, broken glass, — you name it. *This is the one electric broom that has more power than you'll ever need.* The Power Broom features a two-speed motor for customized cleaning control, a large capacity dust cup with a washable, reusable filter and an extra-long 25-foot cord. With a self-adjusting floor tool that quickly and easily glides from floors to carpets, it goes places most regular vacuums can't, like under beds, up and down stairs and up-against walls. It makes quick pick-ups a breeze. Hangs flat and out-of-the-way in a minimal amount of space. The Power Broom is so well-built, it's backed by a Mfr.'s 2-yr. ltd warranty. ***$69.95*** ($9.95) #3925.

Easy-Open Dust Cup



Self-Adjusting Floor Tool

"The Magellan Ultimate Guarantee"™
If you're not completely satisfied with your purchase, simply return it for a full refund.

ORDER TOLL-FREE 24 HOURS A DAY

800-644-8100 Extension SMY031

TO ORDER BY MAIL: Send check or money order for the total amount (including S & H) or credit card number and expiration date to:

The Magellan Group's Tools For Living®
Dept. SMY031
2515 East 43rd St.
P.O. Box 182236
Chattanooga, TN 37422

Y03 © 1996 The Magellan Group, Inc.

University of Arizona archaeologist Jeff Reid led the dig of an Arizona Mogollon site from 1979 to 1992.

Along with the artifacts sent back to the AMNH, the enduring legacy of Lumholtz's great journey is *Unknown Mexico,* one of the classics of North American travel literature. By 1902, when he published this leisurely 1,013-page narrative, the Norwegian had become a superb writer in his adopted language. The book sketches a matchless adventure with a wry, self-effacing wit.

For all the time Lumholtz spent among living Indians, the prehistoric ruins he found all over the Sierra Madre continued to haunt his thoughts. Who were these ancients who had wrought such wonders, only to disappear? As he wrote in 1902, looking back at the first leg of his journey: "We had just emerged from a district which at that time was traversed by few people; perhaps only by some illiterate Mexican adventurers, though it had once been settled by a thrifty people whose stage of culture was that of the Pueblo Indians of to-day, and who had vanished, nobody knows how many centuries ago. Over it all hovered a distinct atmosphere of antiquity and the solemnity of a graveyard."

In pursuit of our own understanding of the Mogollon, Terry Moore and I made our way last May to Grasshopper Ruin with University of Arizona archaeologist Jefferson Reid. Located on the White Mountain Apache reservation in east-central Arizona, on the northwestern edge of the Mogollon domain, the site ranges across some 30 acres of plateau at 6,000 feet. A perennial spring, the ancient village's water source, serves the Apache cattle that graze the plateau.

For 30 years after 1963, University of Arizona teams dug at Grasshopper, making it one of the last major excavations undertaken in the Southwest. The teams, led after 1979 by Jeff Reid, revealed a 500-room pueblo, housing perhaps 600 people at a time during the years A.D. 1275 to 1400. In 1992, when work at Grasshopper ceased, the site was backfilled for protection, leaving little to see but long, undulating ridges in the ground that mark the outlines of the room blocks. Here and there stray building stones—curious mixtures of pink sandstone and gray limestone—lay in the grass. And we found hundreds of plain brown potsherds lying in the dirt—identical to the ones we would see outside Cueva de la Olla in Mexico, more than 300 miles to the southeast.

The concept of the Mogollon as a separate people dates from the 1930s, from the work of the preeminent Arizona archaeologist Emil Haury, who argued persuasively that something was going on in southeastern Arizona and southwestern New Mexico that did not fit under the hitherto-sweeping rubric of the ancient Basket Maker-Cliff Dweller culture now known as the Anasazi. Later, researcher Erik Reed would itemize the crucial differences between Mogollon and Anasazi. Reed's distinctions—which are still debated—ranged from ceramic styles (brownware versus grayware) to the shapes of ceremonial structures (Mogollon tend to be quadrangular, Anasazi circular), to burial position (Mogollon laid out flat, Anasazi tucked into fetal position) and even to the characteristic skull deformation caused in infancy by different styles of cradleboards.

As we sat beneath a ponderosa, Reid expanded on his understanding of the ancients. "The Mogollon were above all a mountain people," he said. "They were the supreme hunter-gatherer-gardeners. They were always mobile, far less sedentary than the Anasazi. Their chief source of game was deer, but they also hunted rabbits, squirrels, turkeys, even some fish. Unlike the Anasazi, they never became fully dependent on corn. I imagine their attitude was, 'If it grows, it grows. If it doesn't, we'll go do something else.'"

A golden age of potters without peers

Terry and I spent a week seeking out other Mogollon sites, such as the Gila Cliff Dwellings and the petroglyphs of Pony Hills in New Mexico, as well as Arizona's Canyon Creek ruin, a cliff village just southwest of Grasshopper. And we spent several days in the valley of the Mimbres River in southwestern New Mexico.

Here, during one meteoric surge between A.D. 1000 and 1150, a Mogollon subculture flared into enigmatic brilliance. The ruins of the villages, crude-looking rooms made of unshaped river cobbles gobbed together with mud, are nothing to look at. But the pottery is the most striking ever crafted in the prehistoric Southwest.

Virtually all Anasazi and Mogollon ceramics, when they are decorated at all, are covered with abstract geometric designs. Yet Classic Mimbres pottery bursts into figurative life. The interiors of these black-on-white bowls celebrate a wild diversity of beasts, humans, in-

People who drive the Bravada are into leather. And lumbar supports. And a full-time all-wheel-drive SmartTrak™ system with no buttons to push or levers to pull. And the feeling of driving through muddy potholes without feeling like you're driving through muddy potholes. Which means people who drive the Bravada™ are basically into everything except letting someone else drive. Bravada

Oldsmobile

1-800-225-OLDS www.oldsmobile.com

GM ©1999 GM Corp. All rights reserved. Buckle Up, America!

sects and chimeric fusions of unlike creatures. The painting is often lucidly stylized, so that a mere detail captures the essence of some animal's behavior.

Mimbres bowls seem to have been very personal items, used throughout one's life. They are often found in burials, inverted over the face of the dead person; usually a small hole, called a kill hole, has been deliberately punched through the bottom, as if to ceremonially retire the vessel. In the 1960s, as Mimbres pots began to command huge prices on the black market, vandals launched brutal attacks on Mimbres sites, using backhoes and bulldozers to tear up graves. Extensive looting continues today.

At the Western New Mexico University Museum in Silver City, museum director and archaeologist Cynthia Bettison guided Terry and me through one of the best Mimbres collections in the Southwest. Our minds reeled at the scenes painted so delicately on clay nearly a millennium ago: a wading bird hovering over an upside-down fish, a man swarmed with butterflies bigger than himself, two butterflies with their proboscises intertwined to make a maze, the "Siamese rattlesnake" with twin bodies and one head. By now, some 10,000 Mimbres pots are known, and scholars recognize the surrealistic menagerie as a style—complete with rigid conventions, such as diamond-shaped eyes and receding chins for human figures—that flashed into being in a particular region, then winked out within 150 years.

Mimbres culture remains an enigma. There is virtually no evidence that the pots were traded extensively outside of the Mimbres region, supporting the view that they were cherished as ceremonial and personal objects.

The Mogollon of New Mexico and Arizona have been relatively well investigated. Their cousins in the Sierra Madre, south of the border, continue to elude archaeology: since the days of Lumholtz, few of the countless mountain sites have been dug and analyzed. One notable exception is the astonishing prehistoric city called Paquimé, near the town of Nuevo Casas Grandes.

Built around A.D. 1300, Paquimé stands on the grasslands of Chihuahua, just east of the Sierra Madre foothills. On a blazing day last May, Terry Moore and I walked the city's lanes with John Roney, Albuquerque Bureau of Land Management archaeologist and an expert on the Mexican Mogollon. Dancing in the heat, the sensuous adobe walls swooped and jutted, defining a maze of rooms and corridors redolent of some arcane ceremonial purpose. We walked through I-shaped ball courts, burial chambers, large plazas, the House of the Macaws (where prized birds had been cooped in bins with stone-ring doorways), and the House of the Skulls (where human craniums hung from the roof).

Jeff Reid had warned us: "Paquimé isn't really Mogollon. They probably still lived there when it was built, but the city is pretty clearly some kind of Mesoamerican overlay." By and large, other Mogollon sites seem innocent of the impact of the great civilizations of central Mexico, like the Toltec or Aztec. At Mogollon sites in Arizona, one finds no ball courts, very few macaws, no rock art clearly portraying such Mexican gods as Quetzalcoatl or Tlaloc.

What, then, to make of Paquimé? Lumholtz was deeply puzzled by the city, which he guessed had housed 3,000 to 4,000 inhabitants. His account is little

At Cuarenta Casas, dwellings five to six feet high suggest the small stature of the Mogollon. Lumholtz found the site (its name means "Forty Houses") in the Sierra Madre. Vandals have left their mark.

1 Sometimes the best laid plans need a little help.

2 We help deliver.

Scotch™ Magic™ Tape from 3M has been helping people for years. When we learned that farmers were taping cracked eggs so they could hatch, we knew yet another great use had been born. From insulating electrical splices, to pin-striping cars, people trust Scotch™ brand tapes for strength, consistency and value. It all comes from our unique corporate spirit – which lets us make the leap

from need to...

3M *Innovation*

©3M 1996

For more information, call 1-800-3M-HELPS, or Internet: http://www.mmm.com

Intertwined proboscises of two butterflies form a maze on this Mogollon bowl from the Mimbres region.

A stylized bighorn sheep is surrounded by a band of intricate geometric shapes in this Mimbres bowl.

more than a catalog of the place's paradoxes: a seemingly palatial center with only humble dwellings, no "trace of a place of worship," a "Latin" cross engraved atop an open altar, pottery "far superior in quality and decoration to anything now made in Mexico."

Rumors of Paquimé had lured the first Western visitors to the site more than three centuries before Lumholtz. Francisco de Ibarra was a fame-hungry conquistador who, in the wake of Coronado's bold but fruitless journey to the north, set out himself to find the fabled Seven Cities of Cíbola.

Mad for Cíbola's gold, the expedition made the first European crossing of the Sierra Madre and arrived at Paquimé. The Spaniards were dazzled by the ruins: they reported houses six and seven stories high, magnificent patios paved with jasper, silver mines strewn with slag, big underground *estufas* (steam baths), and painted adobe walls. The "wild, coarse, and roaming people" who dwelt nearby indicated by sign language that the former residents of the great city now lived six days' journey to the north. Ibarra apparently thought Paquimé was the work of ancient Romans.

However impressive, Paquimé was no city of gold. Ibarra headed north, then across the Sierra Madre by a purported shortcut. On this desperate journey, beset by flooding rivers, dying horses, starvation and poisonous mushrooms, the party nearly perished to the last man. Like Coronado before him, Ibarra returned under the shroud of failure.

As I walked through Paquimé, John Roney pointed out the misperceptions that might have led to Ibarra's wild claims. Mescal-baking pits, visible today, gleam with a shiny residue the Spaniards could have mistaken for silver slag. Worked sheets of flint and chert—flakes of which still strew the ground—may have paved the "jasper" patios. The estufas were actually reservoirs.

Yet who were the builders of Paquimé, and what relationship did they bear to the Mogollon? During the next few days, Terry and I pushed his four-wheel-drive vehicle deep into the obscure mountain canyons of Chihuahua. In Cave Valley, Strawberry Valley and Cuarenta Casas, we revisited Mogollon cliff dwellings Lumholtz's party had found more than a century before. Unlike the majority of Anasazi ruins on the Colorado Plateau, which perch on cliff-edge, commanding lordly views—and others built into shallow cliffs—these Mogollon houses in Mexico tended to huddle in the dark nether reaches of deep, gloomy caves, or to claim scanty ledges under frowning overhangs. Sometimes we could see the indentations in the dirt floors from early excavations. And as we prowled through these hidden canyons, we pondered the two central Mogollon mysteries.

The wholesale Anasazi abandonment of the Four Corners region, in the years just before A.D. 1300, is well known. But few visitors to the Southwest realize that the Mogollon suffered their own full-scale abandonment. Archaeologists place the exodus sometime between 1400 and 1450.

We know for a certainty that about 1300 the Anasazi moved south and east, settling on the Hopi mesas, the Little Colorado and the Rio Grande, where they became the Pueblo who live there today. But where the Mogollon went, and why, remain utter mysteries. And we can only guess, after a century of speculation, which people living today are the descendants of the Mogollon. As far as modern science can determine, the Mogollon vanished not only from their ancient homeland but from the surface of the earth.

As Lumholtz pushed farther south in 1892, he began to encounter his first Indians. They were the Tarahumara, and they lived in caves. Dismissing his colleagues, he settled alone among the Tarahumara for a year,

Award-winning Bose® Lifestyle® systems have been hailed as true audio breakthroughs.

With the Lifestyle® 12 home theater system, our goal was to develop the best sounding, easiest to use home theater system ever. One that was optimized for both movie soundtracks and music.

You won't believe the simplicity.

The system is completely integrated. Every element is designed to work in harmony with the others – precisely, efficiently, simply.

And although the technology is advanced, it's where it belongs – on the inside. Outside, a single, elegant music center houses a built-in CD player and AM/FM tuner. It replaces an entire rack of conventional equipment.

The remote works through walls so you control everything from anywhere inside, or outside, the house.

You won't believe the sound.

The secret to the critically-acclaimed performance is Acoustimass® speaker technology.

Five tiny cube speakers are all you see. They blend right into your decor, almost invisibly, while the Acoustimass module hides out of view behind or under furniture. We believe this advanced technology delivers noticeably purer, more lifelike sound than conventional designs.

If you're not already listening to Acoustimass speakers, you're just not hearing everything you could.

©1996 Bose Corporation JN97360

Step up to a new experience in home theater.

[*Your eyes won't believe your ears.*]

You won't believe it until you hear it.

Thirty seconds with this system and you'll understand why *Home Theater Technology* said, "...everything is included and carefully thought out.... The performance is awesome..."

Call for names of selected Bose dealers where you can hear the Lifestyle® 12 home theater system. Experience the difference Bose technology makes.

For a FREE booklet call
1-800-444-BOSE Ext. 873

The Lifestyle® 12 home theater system. The new audio standard for movies and music.

BOSE®
Better sound through research®

acutely observing everything he could about their lives and beliefs. By the time he recorded this visit, the Norwegian had traveled far from the callow social Darwinist who had sneered at the aborigines. He grew to like and admire the Tarahumara, and he came to believe that these "uncivilized"—but remarkably civil—Indians were greatly preferable to the acculturated ones who had acquired a taste for easy money and Mexican liquor.

The obvious hypothesis, that the Tarahumara were the descendants of the ancient cliff dwellers, was one Lumholtz tried out and rejected. His argument smacks of culture-bound Victorianism. Tarahumara rock art, pottery and architecture, he insisted, were too crude to have degenerated so far from the excellent standards of the ancient cultures he had studied, cultures that would later be known as the Anasazi and Mogollon.

Late in his own life's work, Emil Haury, who invented the concept of the Mogollon, speculated that in fact the Tarahumara *were* their descendants. Other archaeologists lean toward an assimilation among the Pueblo to the north, within whose villages today an extraordinary diversity of language and oral tradition points toward complex mixtures of ancient migrants. The jury is out.

For all the vividness of *Unknown Mexico,* the character of its author remains opaque. Essentially a loner, Lumholtz never married. His correspondence reveals little about his inner thoughts. Only in his travel writing did Lumholtz begin to let down his guard. *Unknown Mexico*'s most moving passage expresses Lumholtz's grief upon the death of his dog, Apache, who had faithfully accompanied him through six years of rugged exploration.

That he was profoundly attracted to the Indian life is unmistakable. He believed that Indians had an "animal magnetism" unmatched by Westerners, and more than one became his loyal friend and companion. Here and there, a fleeting encounter with a woman seems to stir the pangs of loneliness. But he passes on: "With her fine dark eyes, her loose wavy hair and graceful figure, she made a strikingly beautiful picture, and as she called out in a sweet, melodious voice, '*Adios, Señor!*' I took this kindly greeting from a pretty girl as a good omen for my journey."

Later I asked Martha Graham, Registrar for Cultural Resources at the AMNH, whether her careful reading of the voluminous correspondence between Lumholtz and the museum had given her any inklings into the private man. "So much of his letters," she replied, "is aimed at ensuring continued funding. 'I'm finding wonderful things, things nobody's seen before—send more money.' There's no sense of the personal."

From 1915 to 1917, Lumholtz made his third great ethnographic journey, to Borneo, traveling solo deep into the interior, living among peoples rumored to be cannibals and headhunters. Once more, he produced a memorable account of his adventures, called *Through Central Borneo.*

In 1922, at the age of 71, as he planned yet another expedition—this time to New Guinea, a trip he had dreamed of as the "jewel" of his career—Lumholtz became seriously ill. In May of that year, he died of tuberculosis at Saranac Lake, in the Adirondacks.

Mystery city of Paquimé was built around 1300 on what had been a Mogollon site in Chihuahua.

In Australia, Borneo and Mexico, Lumholtz had been seized with the glum conviction that the people he admired and labored to understand were doomed to vanish, either through extinction or assimilation. As he wrote in the final sentence of his first book, *Among Cannibals*: "Invading civilisation has not brought development and progress to the Australian native; after a few generations his race will have disappeared from the face of the earth."

Happily, Lumholtz's dire predictions have not yet been realized. Though still threatened, the Australian aborigines, the Dayak of Borneo and the Tarahumara remain, their cultures remarkably intact.

Yet the Mogollon are gone, and not even the canniest scholars today can say whether they died out to the last man and woman, or migrated, intermarried and evolved into a people whose joys and sorrows continue to reverberate in some corner of the Southwest. Meanwhile, the startling ruins they left behind in the Sierra Madre, many of which Lumholtz was the first Westerner to see, stand crumbling under the ponderosas, brimming with meaning we have yet to decode.

©1996 American Honda Motor Co., Inc. The Tree design, "CAR-FRESHNER" and other wordmarks shown are registered trademarks of CAR-FRESHNER Corporation.

Life is full of complicated decisions.

1-800-33-HONDA, ext. 278 and www.honda.com

Simplify.

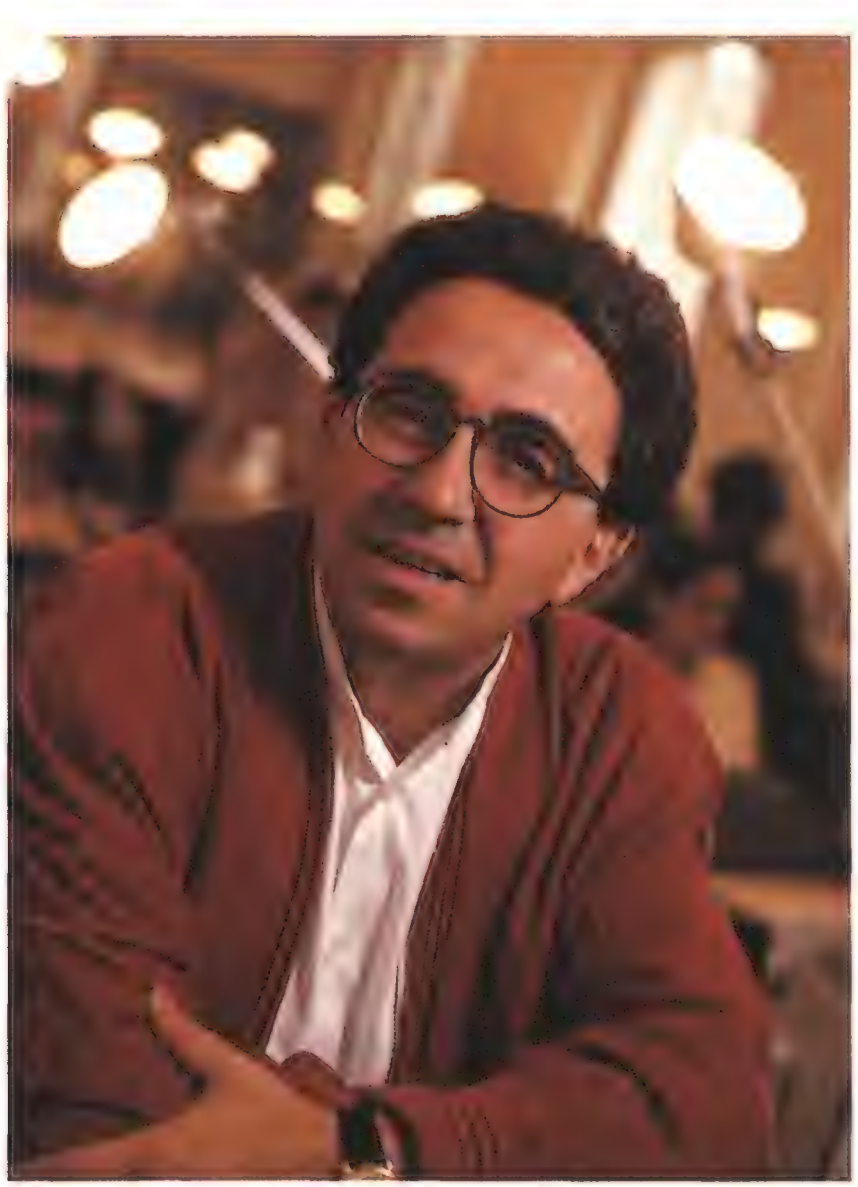
Reliable. Powerful. And, it comes with its own new car scent. What decision could be easier? HONDA

The Accord V-6 Sedan.

By Doug Stewart

Transforming the beauty of skeletons into architecture

Inspired by nature in motion, Spanish-born Santiago Calatrava will create his first U.S. project for the Milwaukee Art Museum



From the homeland of Antonio Gaudí comes architect Santiago Calatrava, a worthy successor whose Satolas train station in France (opposite) has a giant backbone.

Some 20 years ago, as a young teaching assistant at Albert Einstein's alma mater, Zurich's Federal Institute of Technology, Santiago Calatrava and a team of engineering students created a doughnut-shaped swimming pool. Made of clear plastic sheeting and holding 24 tons of water, the transparent structure hung from steel cables high in the air inside the institute's stately rotunda. Calatrava and his fellow students, faculty and their guests, even the institute's director, then took turns climbing naked up a ladder through the doughnut's hole and jumping in. "It was very beautiful," says Calatrava today. "From underneath, you would see the people's naked bodies swimming around."

That gravity-defying swimming pool had more in common than you might think with the monumental public works that Santiago Calatrava now builds. The Spanish-born, Zurich-based architect and engineer is still startling people with his daring, even dangerous-looking structures. He still infuses his creations with a buoyant, almost dreamlike quality. And he continues to draw inspiration from the beauty of bodies in motion.

Today, at 45, Calatrava is on the brink of international superstardom. In an architectural career spanning just 15 years, he's produced an astounding array of innovative public buildings, chiefly in Western Europe—bridges, train stations, concert halls, a tower and an airport. Each building is a graceful and exuberant sculpture whose arches, columns and cantilevers invite visitors to observe the undisguised interplay of tension and compression. Flamboyant yet spare, Calatrava's work offers a refreshing contrast to both the self-styled purity (some would say sterility) of formal modernism and the trendy, skin-deep cleverness of so many of postmodernism's conversation pieces. "Music, painting, and the natural sciences are as vital to his work as any calculation," Matilda McQuaid, a Museum of Modern Art curator, wrote in 1993. His work succeeds in "reaffirming a place for awe in the criteria for building."

Calatrava is little known in this country as yet, but that's set to change. The Milwaukee Art Museum will break ground in 1998 for a 60,000-square-foot extension he's designed. The original building, on a rise overlooking Lake Michigan, was designed by the celebrated Finnish-born architect Eero Saarinen. It opened in 1957. The new $27 million addition will be Calatrava's first building in the United States. (He has designed two other buildings in this country, both in New York City: a swing-roofed, see-through visitor's pavilion for Roosevelt Island and a towering glass-topped transept for the Cathedral of St. John the Divine. Both projects await funding.) The Milwaukee museum, meanwhile, has organized a retrospective of Calatrava's work—models, photographs, sketches and watercolor studies of 14 of his buildings—that will run from November 22 through January 12, 1997.

With its 13 pairs of angled steel cable stays, the Alamillo Bridge in Seville, Spain, looks like a huge harp gliding over the Guadalquivir River; 466 feet high, the pylon is inclined at a 58-degree angle.

For its new building project, the Milwaukee museum considered nearly 70 architects from around the world, including many if not most of architecture's big names. "We didn't want just another building by Cesar Pelli or Frank Gehry or Charles Gwathmey, much as we might admire their work," says museum director Russell Bowman tactfully. "We wanted an architect who would maybe take us somewhere that we hadn't quite imagined." Which, he says, is exactly what happened.

During a visit to the museum, I take a look at the motorized building model that Calatrava delivered. Flipping a toggle switch on one side, I watch the roof of the main pavilion slowly unzip and metamorphose into the wings of a swan rising into the air, or perhaps the curved flukes of a sounding humpback whale, or is it a matador's cape? Whatever it is, the louvered roof will serve by day as a sun shield, by night as a floodlighted beacon beckoning visitors from downtown. To coax them across a busy street (which now cuts off the museum as effectively as a moat), a dramatic pedestrian bridge will hang from 12 cables stretched taut by a raked mast.

One local architect, presumably someone accustomed to more rectilinear forms, couldn't decide whether the new museum resembled the Pearly Gates or Darth Vader's summer home. In general, however, the local reaction has been enthusiastic. The *Milwaukee Journal Sentinel* greeted the design as "an audacious cultural icon" and congratulated the museum for doing something so "daringly un-Milwaukee." Around town, comparisons to the Sydney Opera House are rife.

"The museum must be like a fine meal"

Calatrava has flown in from Zurich for a visit, and I join him as he meets with museum officials. In a profession known for its outsize egos, Calatrava is unassuming, almost shy. His gray horn-rimmed glasses give him a bookish air, and indeed his thickly accented English is laced with Greek and Latin phrases (he is fluent in five other languages, as well) and the odd reference to Schiller, Dante or Einstein. Today, however, the main topic is parking. Calatrava has learned that the space-strapped museum plans to squeeze a parking lot underneath part of his new pedestrian bridge. He gently recommends against it. "The museum must be like a fine meal in a restaurant," he tells the group seated around the conference table. "It's not just a question of food preparation. The presentation, too, must be done well."

As the parking debate drones on around him, he produces a smudged tray of watercolors from his attaché case and begins daubing the architectural plans in front of him in greens, blues and reds, using his water glass to dip his brushes. When he's through, a new "museum avenue" approaches the museum from the south, bisecting a park. The new road, as it turns out, will not only

In a model of the Milwaukee Art Museum addition, the winglike roof is closed at top, fully open at bottom.

Calatrava's Satolas airport train station near Lyon, France (right), begun in 1989, echoes his sculpture, *The Bird* (above).

ease traffic congestion but will also provide curbside parking, and lots of it. The idea is greeted with grins and murmurs of "Perfect." As the discussion moves on to catering needs and kitchen equipment, Calatrava continues quietly to paint, his water glass now an opaque green.

Over breakfast the next morning at the Pfister Hotel, I ask Calatrava if he can justify the moving roof on purely functional grounds. Aren't there simpler ways to provide shade on a sunny day? "Architecture, of course, needs to be functional," he says. "Otherwise, it is not architecture. It is sculpture." But he insists his moving roof performs not just a practical function—protection from the weather—but a symbolic and emotional one: it will make the museum a symbol. "Movement gives an added dimension to form. It makes form a living thing. Instead of thinking of a building as something mineral, like a rock, we can start to compare a building to the sea, which has waves that move, or to a flower whose petals open in the morning. This is a new, more poetic understanding of architecture."

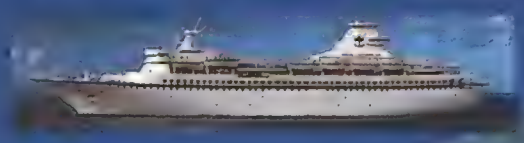
As is already happening here in Milwaukee, Calatrava's large public structures frequently become icons of civic pride. He sees no reason why a bridge or even a bus shelter shouldn't also be a work of art. Being an engineer frees him to make his architecture daring. His Alamillo Bridge in Seville, for example, has a single 466-foot pylon leaning away from the Guadalquivir River at an angle. It appears on the verge of either toppling over backward or being yanked by its cables into the water. Instead, of course, the pylon stays where it is, in perfect equilibrium. "I know very well what I am doing," Calatrava says. "There is no reason a structure cannot be both very safe and very audacious." The scale of a large public building, moreover, can magnify that audacity, while adding to its overall architectural power. This is part of what appeals to him about doing large public projects, which he estimates account for at least 90 percent of his work.

Calatrava has always been comfortable with oversize objects and spaces. The hillside home near Valencia where he grew up had huge rooms and 16-foot ceilings throughout. "For me, those are very familiar dimensions," he says.

Likewise, on museum visits as a child, he remembers being entranced by the huge canvases of Goya and Velázquez. He studied drawing and painting for a period before deciding, at 17, to attend architecture school in Valencia. Soon after graduation in 1973, his innate love for mathematics and natural sciences, coupled with his visceral dislike for the lingering Franco regime, prompted him to abandon Spain for Switzerland and enroll in engineering school. After earning his second degree, he stayed on to gather a third, a doctorate in technical science. Calatrava's dissertation, "On the Foldability of Space Frames," explored ideas that he would

Freelance writer Doug Stewart, who reported on the Mpala Research Centre in Kenya last May, no longer thinks of mirrored high-rises as daring.

It Can Take Several Lifetimes To Reach A State Of Inner Peace And Tranquillity. Or, It Can Take A Couple Of Weeks.



Concentrate deeply. Think about a 14-day ocean journey to Singapore, or Bali, Thailand or China. Days when your every whim is anticipated. Instantly met. Sights, smells, lights, sensual feasts imagination can't do justice.

Now, a flash of insight: Royal Caribbean will take you to the Far East.

Our Sun Viking has just begun a year-round presence there with five itineraries sailing to over twenty-five of the world's most mystical, exotic cities. Along the way? The same lavish attention you already expect from Royal Caribbean in the rest of the world.

It's a vacation that until now, simply did not exist. But you can believe. Call 1-800-659-RCCI ext. 611 for a free brochure. Or simply ask your travel agent how to reach nirvana.

Don't put it off another lifetime.

You've Got Some ROYAL CARIBBEAN Coming.

Alaska · Bahamas · Bermuda · Caribbean · The Far East · Hawaii · Mediterranean · Mexico · Panama Canal · Russia · Scandinavia

Internet access: http://www.royalcaribbean.com ©1996 RCCL Ships of Norwegian, Liberian and Bahamian Registry

Rarely without a pencil and box of paints, Calatrava sketches constantly, as here in his Paris branch office.

Departing from traditional designs, Stadelhofen railway station in Zurich is a long, curved structure.

later use to make his high-flying roofs twist and bend.

Calatrava opened an architectural office in Zurich immediately after finishing his studies in 1981, at age 30. Calatrava Valls SA has since added offices in Paris and Valencia and employs some 40 people, including architects, engineers and technicians. In the beginning, however, Calatrava worked alone, assisted only by his wife, Robertina, a lawyer. "I did roofs for a school or entrances to buildings. Small things," he tells me almost apologetically, as though these were a young man's folly. Yet who else could have devised a set of folding warehouse doors (in Coesfeld, Germany) that merited a series of brooding black-and-white photographic studies? As Calatrava's onetime mentor, the Spanish-born architect Felix Candela, wrote in 1991: "What Santiago Calatrava sets out to create, and actually does create, are real works of art, even when he is dealing with the most prosaic of problems."

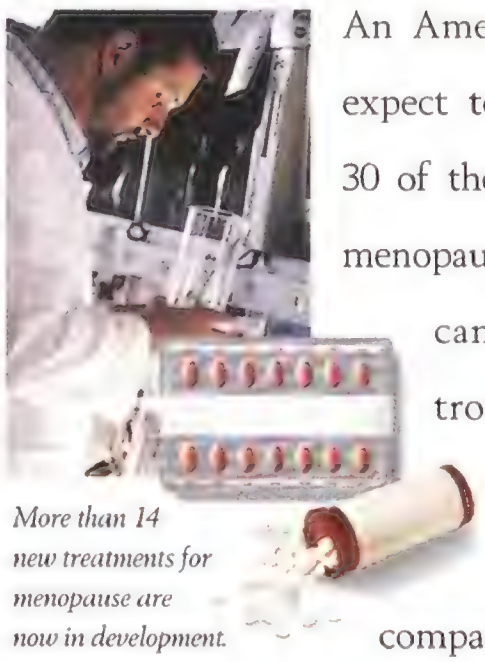
Calatrava's first major building project was a job that seemed to offer little scope for artistic imagination. The site for Zurich's new Stadelhofen train station was a narrow strip of land shoehorned between a dense urban quarter and a steep wooded hillside. Calatrava's solution was as much urban planning as architectural design. He dispensed with the clichéd notion of a train station as something grand with four walls, a roof with a clock tower, and avenues radiating in all directions. Instead, he designed a graceful network of gently curving conduits—for trains, cars, hurried commuters and casual strollers, as the case may be. With its rhythmic sequence of steel pergolas, Zurich's Stadelhofen station has been compared variously to the rib cage of a stegosaurus and the inside of Jonah's whale.

Whereas Stadelhofen nestles organically into a crowded city center, the Satolas airport train station outside Lyon, France, is a monumental sculpture looming like a 21st-century Chartres above an open plain. Calatrava's tour de force, completed two years ago for almost $200 million, is at once a welcoming gateway for air and rail visitors and a triumphal arch for the city of Lyon itself.

When I arrive at the Satolas station aboard one of France's high-speed TGV trains from Paris, my first impression is of an edifice straining to free itself from gravity. At track level, the slanting concrete pillars seem to stretch like the legs of dancers, as though the light, arching roof they support were pulling them upward, not forcing them down. On the upper level, the shell of the main concourse suggests a pair of enormous ribbed wings. The wings are supported by a pair of huge steel arches that converge outside at a single point. As I walk around inside, I feel as though I've entered a living organism, or perhaps a massive seashell. Railings lean and columns taper. There is no cladding to hide the way the building supports itself. The whole structure appears to be flexing, like an animal about to spring.

NEW TREATMENTS FOR MENOPAUSE MEAN WOMEN CAN ENJOY MANY MORE YEARS OF LIFE.

Today, women can expect not only to live longer, but to continue living life to the fullest.



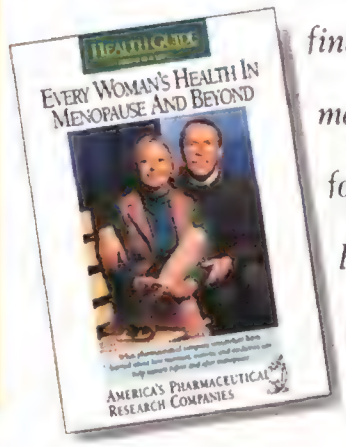
More than 14 new treatments for menopause are now in development.

An American woman can now expect to live almost 80 years, 30 of them after menopause. At menopause, the loss of estrogen can lead to a range of troubling symptoms and other more serious illnesses. Pharmaceutical company researchers are now developing medicines that treat or help protect against these conditions. New hormone combinations treat osteoporosis and decrease the risk of cardiovascular disease. And now, there are two new drugs for the treatment of osteoporosis that have been shown to stop bone loss and build healthy bones. Thanks to these drugs, women can continue living active and healthy lives after menopause.

Leading the way in the search for cures is what our 48,000 pharmaceutical company researchers do every day. Among them is Dr. James H. Pickar, a pioneer in the development of new and safer treatments for menopause. As a gynecologist, his first-hand observation of the effects of menopause was an inspiration to leave his practice and dedicate himself to research on new combinations of hormones. These drugs are now helping to alleviate the symptoms of menopause for millions of women worldwide.

staying healthy

Make sure you get adequate amounts of calcium and vitamin D in your diet. Exercise regularly to promote bone health and overall fitness. And if you smoke, quit. To find out more about treatments for menopause, call (800) 862-5110 today for our free booklet, "Every Woman's Health In Menopause And Beyond," or you can visit us on the Internet: http://www.phrma.org



America's Pharmaceutical Research Companies

DISCOVERING 90% OF ALL NEW MEDICINES

Calatrava's 1993 wood-and-wire sculpture reflects his fascination with elliptical curves and movement.

The few people milling around between trains all seem to have cameras out and are photographing the station from every possible angle. "It's an amazing space, isn't it?" says one of them, a young Englishman who's made the pilgrimage direct from London just to see the station. "It's all pure structure, like a dinosaur skeleton. There's no sense of this being sensible."

I arrange to meet Calatrava in Padua, Italy, where an enormous exhibition of his work has just opened at the Palazzo della Ragione in the center of town. The exhibition space, once the city's Hall of Justice, is a grand cathedral-like chamber dating from the 13th century. Fading frescoes cover the high walls. At eye level, however, the room calls to mind a natural history museum filled with biological specimens under glass. White building models bristling with fins, spines and bony protrusions crowd the room in four long rows. We stop to examine a planetarium shaped like a lidded eyeball, a train station studded with metal trees, and a floating pavilion designed to blossom like a water lily.

In the back of the hall looms an enormous model of Calatrava's proposed modification of the Reichstag, Berlin's once and future parliament. His version (which shared first prize in a competition but has since been shelved) is crowned by a transparent four-sided cupola. He calls over a pair of museum employees, and the three carefully remove the case over the model. Calatrava climbs up and peels back the four sides of the dome, which open like flower petals. Children rush down the aisles to watch, followed by their parents. Reaching gingerly inside, he opens a second glass dome underneath. "*È più bello,*" he tells his helpers. "It is nicer this way, don't you think? Let's leave it like this." Peering straight down through the opening, I can see the rows of seats in the parliamentary chamber. Domes have always represented authority, Calatrava explains, so a fragmented dome suggests that authority is not absolute. More practically, it provides ventilation. "If there is very hot discussion in the parliament, they may want to open both."

Nearby, I notice a small animal skeleton in a case. This was Fifi, Calatrava says. Fifi, a mutt that died some 20 years ago, lived a long and contented 12 years as someone's pet. "We see her now without life, but once this structure was able to move and run and jump. That to me is almost unbelievable." Imagining Fifi bounding and jumping, more than any actual bone-to-bone connections, is what continues to inspire him.

Calatrava sketches compulsively, he admits, and many of his watercolors and ink-and-charcoal drawings are on display among the models. His initial studies for a building often take the form of human figure drawings. His idea for the inverted-V pillars along the tracks at the Satolas station was influenced by sketches of dancing figures; he had painted them joined like paper dolls.

The central aisle of the exhibition hall has been set aside for his sculptures—geometric works in marble, ebony, chrome and steel. Most of these are somewhat didactic explorations of physical forces: heavy cubes perched on sharp points, asymmetrical towers straining against cables. Everything seems to be on the brink of puncture or collapse. Calatrava designs his sculptures for his own pleasure, but many also serve as building studies. In Zurich, he has a whole collection of motorized sculptures that he has used to pursue his lifelong obsession with foldability; the engineering problems he solves to make a metal sculpture unfold are much like those involved in making a roof retract.

I notice a pair of arching brass sculptures from the 1980s that could almost be scale models of the Satolas station's roof and his Tenerife Concert Hall (the latter a plumelike awning cantilevered precariously over the main volume). Below one of the arches is a free-rolling ball. His staff routinely refer to these sculptures as birds, but Calatrava has always considered them eyes. The eye holds an almost mystical fascination for him; it's the eye, not the hand, that is the architect's most important tool, he says. He sketches one of the wedge-shaped arches in profile on a page of my notebook, then fills in the rest of the face—a second eye, a nose and lips. Studying the picture, I find the arch too broad to be a convincing eyebrow. Then I look up and notice how luxuriant Calatrava's own eyebrows are. It occurs to me that if he had more ordinary eyebrows, his roofs wouldn't arch so grandly.

In the late afternoon, we take the train to Venice. At Piazza San Marco, Igor Silic, a local architect friend and

©1996 Parker Pen USA Limited

THE NIB IS STILL SPLIT BY HAND USING A DISK *BARELY* THICKER THAN A HUMAN HAIR.

(AND YOU THOUGHT threading a needle WAS DIFFICULT.)

It requires years of experience and a steady hand to split the nib of the PARKER DUOFOLD Red Jasper. The disk, a mere .005 of an inch in thickness, must hit its mark exactly.

Once split, each individually embossed 18K gold nib is polished to a high lustre. All told, it's a process that takes several days to complete. But given the results, it is time well spent. Like all of our writing instruments, the PARKER DUOFOLD has a lifetime guarantee.

A PARKER IS IN THE DETAILS PARKER

Bloomingdale's 1-800-555-SHOP

model-maker, meets our vaporetto and guides us to his favorite seafood restaurant. The two architects are in a celebratory mood. Calatrava has just won approval of his design for the first modern bridge over the Grand Canal. Linking the Piazza Roma and the train station, it will be a graceful but unobtrusive steel arch with stone paving. Venice has long been a tough market, even for the demigods of modern architecture, Silic explains to me; Frank Lloyd Wright, Louis Kahn and Le Corbusier all tried and failed to win approval for new buildings here. Proposals to build a fourth bridge over the Grand Canal have been rejected for decades, adds Silic. "And now Santiago will do it!" he says.

As if that weren't cause enough for excitement, a delegation of Swedes is arriving here tomorrow to see the Padua exhibition and to talk with the architect about his design for Stockholm's Olympic stadium. Calatrava himself seems not to realize how white-hot he is. Earlier, he asked me several times, a little anxiously, whether I liked the exhibition in Padua. Yet he clearly doesn't doubt his abilities. How could an architect dare build in Venice, of all places, if he did?

By midnight, our once-dazzling-white linen tablecloth is adorned with charcoal figure studies—imaginary male figures tumbling, stretching, leaping, twisting, their musculature shaded with dregs from our empty coffee cups. Looking bemused, the owner of the restaurant strolls over. Silic introduces "Doctor Calatrava" as the architect of the new Grand Canal bridge and recommends the tablecloth be put away for safekeeping, unwashed. The owner nods, then insists that the architect sign his handiwork. Calatrava is slightly embarrassed by the fuss, but he doesn't protest. He signs the tablecloth with a flourish.

One of Calatrava's kinetic projects, the Kuwaiti pavilion built for the Expo '92 world's fair in Seville has 17 hydraulic ribs that can open and close from a 45-degree resting position to an upright 90 degrees.

Canon

For Those Who Want Photo-Realistic Printing, We Have Something To Say:

YOUR PRINTS ARE READY.

Simply Incredible.

With a legacy of nearly half a century of photographic innovation upon which to draw, it's really no surprise that Canon's new line of Color Bubble Jet™ printers can deliver on the promise of photo-realistic printing. What's amazing is that you can create this level of output for as low as $179.*

Only Canon has the revolutionary technology that gives you unbelievable quality in everything you print. Along with specialty supplies and accessories that make every kind of output truly outstanding.

Like our exclusive Photo Ink.**† Just plug in a convenient cartridge, print on our High Resolution Paper,† and prepare to be astounded.

For output that's incredibly vibrant, try our new Neon Ink.† Now everything from presentations to pop-up cards will really stand out in amazingly bright fluorescent colors. And under a black light, the effect is even more amazing.

If you're ready for incredible printing, the new line of Canon Color Bubble Jet printers is ready to deliver.

All You Have To Do Is Point And Click.

Inside these free Canon Creative 2 CD-ROMs there's a world of creativity. And we've made it incredibly simple to enter and enjoy.

Just launch one of the many exceptional software applications, like Canon's exclusive Design Essentials™—with pre-designed templates that give everything you create a professional quality—whatever your profession. Or CreataCard® Special Edition from American Greetings—the perfect way to personalize affairs of the heart. Or Color Store,™ the application that makes every family project as colorfully creative as can be.

The software makes it simple. Just pick the design, personalize it and print. Which makes this process the fastest way to get professional-quality business designs.

Incredibly simple.

The exclusive Canon Creative 2 software that comes with each new Color Bubble Jet printer was designed to make incredible results incredibly easy to achieve.

Just pick your design, personalize it and print. Which puts photo-realistic printing within easy reach of anyone.

All you have to do is load Canon Creative 2 on your PC and you'll enter a world of imagination

and inspiration. Where you can choose from a wide range of professional-quality, pre-designed templates. And business-appropriate, pre-selected color combinations.

In no time at all, everything you had in mind will be in hand.

Canon popularized the point-and-shoot camera technology that makes it perfectly simple for anyone to take great pictures.

So, it's really no surprise that we're first to deliver the point-and-click technology that makes it easy for anyone to create finished printouts that are picture perfect.

CREATE YOUR OWN GALLERY.

Now you can create professional-quality color business designs instantly. With literally hundreds of ways to present yourself and your ideas in vibrant, photo-realistic color.

Customize everything from T-shirts to pillow cases with 120 different iron-on ideas that are second to none. Which is no surprise from the company that pioneered Bubble Jet T-Shirt Transfers† in the first place.

We've stocked Color Store with over 1,000 colorful ways to put a rainbow on every lunch box, a cool design on every envelope and a customized certificate on every wall.

You can make thousands of greeting cards with CreataCard SE from American Greetings, Color Store or Design Essentials.

Be it a brochure, an invitation, or a newsletter, Canon Creative 2 supports a wide range of small business needs.

We have what you want.

Whether the final product is an annual report or a T-shirt, Canon has the software and the accessories you need to make everything on these pages and much more. In thousands of different designs and styles. With color that is simply incredible. And only Canon makes everything you imagine so incredibly simple to create.

Stickers† that are serious or silly. Brochures printed on Brochure Paper† that's coated on both sides—for photo-realistic, professional-quality output on both front and back. Plus greeting cards you can personalize and print for a fraction of the cost of store-bought look-alikes. (For extra sizzle use our Greeting Card Paper.†)

There's an interactive Curious George® adventure that your kids can create, print out and enjoy, again and again—just one of many family projects we've designed to delight and inspire.

© 1996 Houghton Mifflin Co.

Simply put, if you know how to handle a mouse, our fabulous new line of Color Bubble Jet printers has everything it takes to make your ideas click: User-friendly engineering. Professional-quality designs. Fun specialty inks. And simply gorgeous, photo-realistic color printing.

It's that simple. With a Canon Color Bubble Jet printer.

Come Meet The Whole Photogenic Bunch.

*The BJC-240 is the compact color printer with the big, bold 360 x 360 dpi color that makes every college student look brilliant and every kid be more creative. Photo-realistic printing is now within a family budget. For just $179.**

*The BJC-4200 has what it takes to take care of business. It features superior, photo-realistic color output. Fast black-and-white. And the software tools you need to build a home business. For just $279.**

*The BJC-4550 gives you unsurpassed photo-realistic output as large as 11"x 17." And prints at 5 ppm in black and white. Whether you're a PC or Macintosh® user. For the graphic artist or small business that thinks big, this is the printer of choice. For just $499.**

*The BJC-620 prints at 720 x 720 dpi on plain paper, giving you the ultimate in photographic-quality color. Put it to work with our presentation-perfect software and forget about those expensive desktop publishing services. For just $399.**

Canon

For more information, call 800-848-4123 or visit our Web site at http://www.ccsi.canon.com

**Manufacturer's suggested retail price. Dealer prices may vary. **Photo-realistic output available out of the box. Even more incredible output with optional Photo Ink. †Photo Ink, Neon Ink, High Resolution Paper, Brochure Paper, T-Shirt Transfers, Greeting Card Paper and stickers are each sold separately. © 1996 Canon Computer Systems, Inc. Canon and BJC are registered trademarks and Bubble Jet and Design Essentials are trademarks of Canon Inc. All other products and brand names are registered trademarks or trademarks of their respective companies. Software available on CD-ROM only. Canon Creative 2 is designed for use with Windows 3.1 and Windows 95 only. CCSI, 2995 Redhill Ave., Costa Mesa, CA 92626. In Canada, call 1-800-263-1121.*

Antebellum Quilts

A new show at the Renwick Gallery features a rare repository of textile history

In the mid-18th century, "35 pieces of chintz" from John Isles of Bristol were dispatched to John Savage & Co. in South Carolina aboard the sloop *Rebecca*. These lengths of fine glazed and printed cotton likely found their way into quilts fashioned for the beds of prosperous households. Before a competitive textile industry developed in the United States in the 1840s, costly printed fabrics imported from Britain and France dominated the upscale American market. Affluent quilt-makers sought the finest of these calicoes and chintzes to sew into lavish bedcovers. With their opulent colors and elaborate designs, these quilts preserve a legacy of stylish fabrics and document an important era in textile printing and quilt-making.

An arresting array of these seldom-used "best," or heirloom, quilts is currently on display at the National Museum of American Art's Renwick Gallery. "Calico and Chintz: Antique Quilts from the Collection of Patricia S. Smith," on view through January 12, 1997, features rare and little-known American quilts dating from about 1790 to 1845.

In some of these quilts, patterns of similar color combinations are uniformly repeated. In others, the patterns are more random, with lush, fragmentary images of flowers, birds and trees.

"When blocks of multicolored chintzes with large floral motifs are juxtaposed with patches of densely patterned, polychrome calicoes, the effect can be spectacular, almost kaleidoscopic," says the show's curator, Jeremy Adamson. "Early American quilt-makers created works of visual power and splendor that showcase the beauty of these fabrics, bequeathing to us a treasure trove of textile history."

Diane M. Bolz

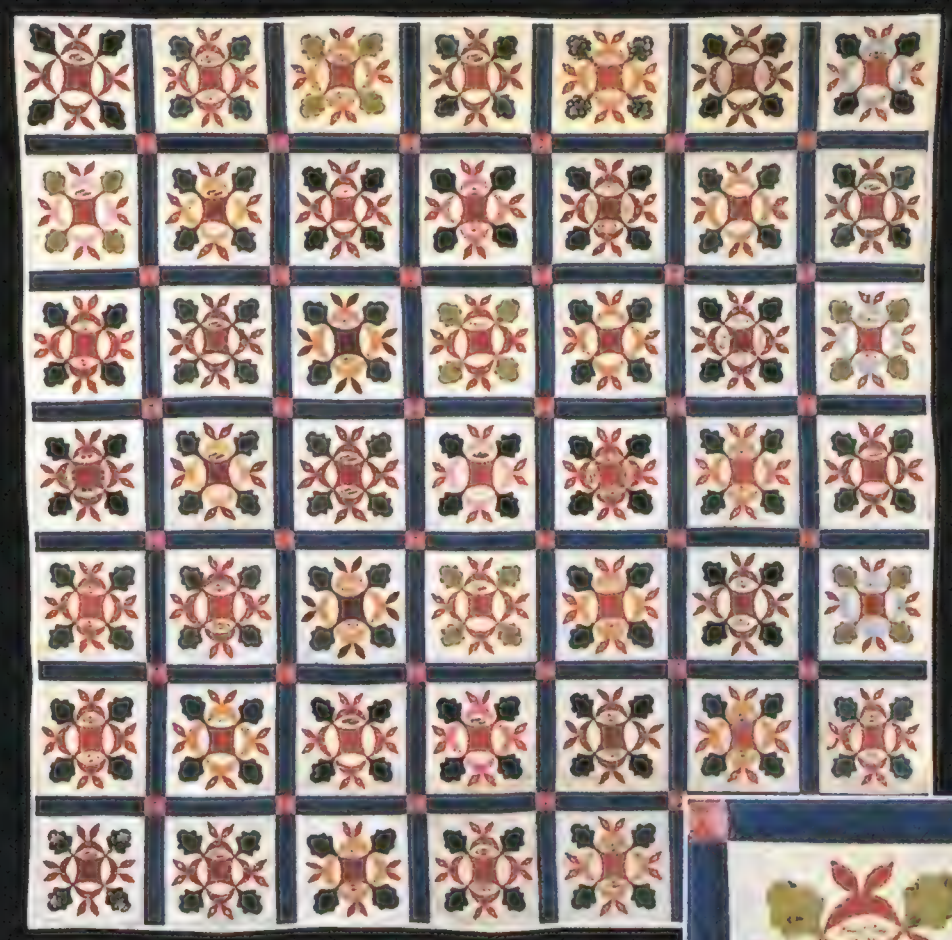
In the 1830s, Annie Righton Smith made this appliquéd quilt with flowers cut from figured chintzes.

Calico zigzags across the blue ground of a pieced cradle quilt, "Streak of Lightning," c. 1840.

Pieced and appliquéd bedcover, c. 1825, boasts a rare, block-printed chinoiserie center medallion.

Unusual blue *fondu* print forms border of "Ohio Star" nine-patch-on-point pieced quilt, c. 1845.

Made in New England c. 1845, this pieced "Delectable Mountains" bedcover has an appliquéd border.



"Hickory Leaf Variation" pieced friendship quilt top was constructed of 49 appliquéd squares, 1843-45.

{*The Advanced Peacock*}

{*The Crescent Moon*}

THE EIGHT PRINC
ACHIEVING GREATER RELA

{*The Bow*}

{*The Wheel*}

JEEP. GRAND CHEROKEE

Any journey of self-discovery starts by finding a quiet place. Inside a Jeep Grand Cherokee Limited, for example. Here, features like rich leather-trimmed front seats with 10-way power adjustments that include lumbar supports, Automatic Temperature Control, and a premium sound system provide a harmonious envi-

†Always wear your seat belt. Jeep is a registered trademark of Chrysler Corporation.

{*The Crow*}

{*The Scorpion*}

PAL POSTURES FOR
KATION AND SELF-DISCOVERY.

{*The Jeep Grand Cherokee*}

{*The Half Lotus*}

ronment. The Jeep Memory System allows you to set preferences for the driver's seat, outside mirrors, and radio presets, liberating you from minor distractions.

Now picture a secluded location and prepare to unwind. The exclusive Jeep Quadra-Trac® all-the-time four-wheel drive system and available high-output 220 horsepower V8 give you boundless flexibility. Grand Cherokee's standard dual front air bags† will enhance your growing sense of serenity.

For more information, access http://www.jeepunpaved.com or call 1-800-925-JEEP. Jeep ownership. It's a position that's easier than ever to get into.

Jeep®

THERE'S ONLY ONE

© 1996 Intel Corporation. *All other trademarks are the property of their respective holders.

The way you top it is with a direct link to the Internet. That way, you have the best of both worlds—the 3D graphics, video and audio of a CD-ROM, plus built-in access to timely and relevant information located on the Internet.

It's called a hybrid, or *connected,* CD-ROM. And the wonderful thing about it is that it lets you experience true, interactive multimedia. That's because the data-intensive work, such as processing the CD-ROM's rich audio and video, is being handled on your PC by the powerful Pentium® processor. Then through the connected CD-ROM's ability to link to the Internet, you can get additional, up-to-date information from related Web sites.

For example, say you were using Frommer's Interactive Travel Guides San Francisco '96* CD-ROM to plan a vacation. It would let you take a

cable car tour, reference a map of Fisherman's Wharf, and even check out some of the nearby hotels. The Internet link could then connect you to those hotels with a Web site so you can book your actual room reservation.

The connected CD-ROM is just one more example of how advanced technologies combined with powerful Intel microprocessors are adding new dimensions to your PC experience. But this is only a taste of what it's all about. To learn more about connected CD-ROMs, check out the Intel Web site. ►www.intel.com

CD-ROMs give you a rich multimedia experience you can't get anywhere else.

So how do you top that?

intel®
The Computer Inside™

PROUD PARTNER
150 1846-1996
Smithsonian

FROMAGE
CHÈVRE FERMIER

By Rudolph Chelminski

Ooh là là! Only in France can you find cheeses like these

It's easy to lose your head over the luscious array of fromages fermiers *still being made the old-fashioned way by Gallic artisans*

Damaged in war, the statue of Camembert's creator has been replaced, but unpasteurized cheeses like this selection from Louis Chevenet (opposite) never will be.

In 1926, a doctor from New Jersey named Joseph Knirim arrived in the little French town of Vimoutiers, some 50 miles inland from the Normandy beaches where other Yanks would be landing with less pacific intent 18 years later. He was bearing a large floral wreath, and he was looking for the tomb of a certain Marie Harel. He was chagrined to discover that the natives hardly knew who he was talking about and couldn't direct him to the grave site in question—after all, the woman had died a century or so earlier. At length Knirim located a little stone plaque that seemed as likely a candidate as any, and, we may suppose, with appropriately bowed head and reverent silence, he deposited his wreath at the foot of the stone. Imagine the tortured thoughts that must have raced through Knirim's head at that moment: "What is the answer, Marie? When is it really done? Do I eat the crust or don't I? And is it OK to put butter on the bread, or is that overdoing it, fat-wise? Tell me, Marie."

Marie Harel, as astute readers may have guessed by now, is the patron saint of Camembert cheese. Not an official saint, mind you, but the rustic genius generally credited with inventing the fat little divinely odoriferous disk that, as much as the Eiffel Tower, the *béret* and the *baguette*, cries out: *France!* She was the wife of a laborer from the hamlet of Camembert, a few kilometers down the road from Vimoutiers. Knirim knew the story by heart: a rebel priest from the Brie region had taught Madame Harel the secrets of cheese-making while, according to legend, he was hiding out from Parisian revolutionaries or his own ecclesiastical authorities in 1790. Such a triumph was her unctuously potent variety of Brie that Camembert soon became a thriving industry and the pride of Normandy.

Joseph Knirim's attachment to Harel grew from his discovery that patients with stomach disorders, unable to keep normal food down, flourished when he put them on a diet of Camembert and Pilsen beer. Medicinal benefits were not what the plucky milkmaid intended, but never mind, the good doctor was determined to honor her anyway. He launched a subscription drive for a statue, and two years later his efforts were crowned with success when a likeness of Marie Harel, standing steadfast with a great jug of cholesterol-laden Normandy milk on her right hip, was dedicated opposite the Vimoutiers town hall. The statue was beheaded in 1944 during an Allied bombardment, but a new one was soon substituted, and it stands there today, as proud as ever.

I'm sure that right about now you are wondering: Does the work of a mere cheese-maker possess sufficient *gravité* and *grandeur* for her to merit elevation to the status of a national hero? In France it does.

Charles de Gaulle once wondered how any country that produced 250 different kinds of cheese could be governed. Most people latch onto the second part of his

Photographs by Kay Chernush

Production of Camembert at François Durand's farm in Normandy begins with a careful ladling of milk curds into molds (above). Cured cheeses are salted (below) before Durand (opposite) wraps each in waxed paper.

question, but the true significance lies in the first. All those cheeses are a direct reflection of the amazing variety of this chunk of Europe called France: a cold sea and a warm sea; thrusting new mountains and hoary, moundy old ones; fat, flat plains and alpine meadows; harsh, boulder-strewn coastlines and sandy strands. Every little corner has been making its own particular cheese for the last couple of thousand years.

Why should there be so many of them, though, and why so different? I don't mean to lean too heavily on the Holy Trinity metaphor for this very Catholic country, but the entire cheese phenomenon does seem to fall naturally into notions of three. Cheeses naturally reflect the three elements that dictate their creation: the animals that make the milk, the pastures where they graze and the people who transform their milk. France has ample herds of all three animal species propitious for the creation of cheese (cows, goats and sheep) and plenty of good pastureland (from high meadows and lush lowlands to salty prairies by the sea), and France is, as Julius Caesar told us awhile back, tripartite, in any case.

The abundance of cheese that results is a nice gauge of the fabled individualism of the natives. If anything typifies these people, it is a passion for doing things differently. The monks and peasants who first began making cheeses doubtless shared that passion, and the classical processes of their craft were then, as now, three in number: curdling, draining and maturing. When you multiply the types of milk available by all the tricks that can be applied to these three processes (pressing the curds, chopping them, leaving them alone or cooking them; salting the result or not; adding bread crumbs, spices or herbs; maturing the cheese by anywhere from a few days to a few years; turning it; brushing it with beer or wine or oil or whatnot) and consider the multitude of microorganisms that take charge of the fermentation, and then add that Gallic individualism into the equation, it's a wonder there aren't even more cheeses.

To the chagrin of tourists, history has provided these individualists with enough lessons to make them eternally suspicious, for if there is joy in creating something that the other village doesn't have, the French have always known that, sure as rain, someone's going to come along and try to steal it, and probably their cash and their spouses and their houses, too. A Roman, a Saracen, a Briton or a German, for instance. After all, they've been doing it for a couple of millennia, haven't they? One mistrusts, then. One is on one's guard.

I had a first-rate example of this just the other day, when I talked to Roger Alléosse, owner of one of the

best *fromageries* (cheese shops) in Paris. Were there still, I wanted to know, real handmade farm Camemberts to be found, and not just their vulgar industrial imitations? But yes, but yes, he said cheerfully, and I sell them right here. I blundered on in my naive American way. Where did he get them—Camembert, Vimoutiers or where? And could he give me any names?

"*Ooh là là,*" he replied, his voice dropping an octave. "Why do you want to know that?" Unwittingly, I had impinged on his space, trod on his commercial toes, and his quick, calculating mind was already sizing me up: perhaps I was a front for a competitor, out to grab his best supplier, or a spy for a Yankee conglomerate.

A few days later, I was standing before the immaculate glass display counter outside the famous fromagerie of La Mère Richard in Lyon when this viligant attitude very nearly brought me to grief. I thought I would jot down some of the prices of the cheeses lying there in such winsome repose, when suddenly I was confronted by a large blonde fury. Mother Richard herself had darted out of her shop and was demanding to know what the hell I thought I was doing. "You mark down my prices and I'll throw you out for good," she barked.

Renée Richard is France's most celebrated cheese merchant, doyenne and resident terror of the Halles de Lyon, the principal covered market serving a region that is not afraid to proclaim itself the gastronomic center of the world. The building itself is a typical architectural disaster of the 1960s—ugly glass and ugly concrete in an uglified section of town called La Part-Dieu (God's Portion)—but as soon as the visitor steps inside he realizes that he has died and gone to food heaven. One *charcuterie* after another beckons to him with the infinite grace of its hams, pork sausages, pâtés and headcheeses, while nearby bakers lift heavenly-smelling loaves of bread from their ovens. Mustachioed beef butchers stand with arms crossed, white aprons daintily dappled with blood from their morning's preparation of *rumsteck, entrecôte* and *châteaubriand*, while the *primeur* stands have their fruits and vegetables arranged in a watercolor worthy of Monet. Two oyster stands are already doing a brisk business in *marennes, plates, fines de claire* and *portugaises* and ice-cold glasses of Muscadet. Only a few steps farther, Monsieur Pupier is artfully laying his fish and crustaceans out on beds of cracked ice, murmuring *requiescat in pace, me lovelies.* And, a bit farther on down to the right is the uncontested focal point of Les Halles, Renée Richard's cheese stand.

Her title "Mother" is meant to suggest not maternal devotion but seniority and respect. With her disabused eye, sardonic smile and slashing wisecracks, she presides over Les Halles the way Elizabeth I presided over Tudor England. All the great restaurants that do business in and around Lyon—Bocuse, Orsi, Lacombe, Chapel, Brazier, Rostang, Pic, Lameloise, Ducloux, Bise—come to La Mère Richard to stock up on the inevitable fourth of the five courses that constitute any serious French dinner.

Renée Richard and the others of her ilk are providential to French gastronomy because they provide what the foreign upstarts can't get at home: a full, rich, scarcely believable array of France's unpasteurized, artisanal cheeses. A restaurant in San Francisco or Melbourne or Oslo can locate perfect meat, fish, fruits and vegetables for its table, create luscious pastries and sherbets, import the finest wines and liqueurs, but it can't even begin to lay on a cheese platter like the French. Typically a top French restaurant will offer at least a dozen, and perhaps as many as 20, cheeses, ranging from the soft, alabaster beauties of unaged goat to the solid Tomme, Beaufort, Saint-Nectaire and Cantal; the ripe, gently flowing Brie, Reblochon, Camembert and Epoisses; the blue-veined, aristocratic Roquefort and Fourme d'Ambert; all the way to Cholesterol City, the Gratte-paille, Explorateur and Brillat-Savarin.

Cheese selections of this breadth are unique to

Rudolph Chelminski, a frequent contributor, grew up in Connecticut, but he has been enjoying an unpasteurized life in France for some 30 years.

The formidable cheese merchant Renée Richard, left, lets her guard down long enough to hug Renée *fille.*

France. Renée Richard's finest cheese would never make it past United States Customs, because American health codes have decreed that unpasteurized milk and milk products are health hazards, and are not welcome. When I asked Mother if there was any good cheese at all that could be made from pasteurized milk, she snorted and rolled her eyes. "*Non, espèce d'imbécile, non, non, non.* Those cheeses are just like your American hombourgair—*le chewing-gum!*"

She believes it entirely, passionately and intractably. This formidable woman has devoted her life to locating, maturing and selling the best products of the best artisans who create the 9 percent or so of French cheeses that have not yet fallen into the maw of industry and continue to be made by hand. How serious can you get about industrial counterrevolution? Try Renée junior, La Mère Richard's carbon copy, disencumbered of perhaps 25 years and 25 kilos. She has the same perfectly coiffed blonde hair as Renée senior, the same bright red lipstick and smooth skin. Renée *fille* is a modern woman who holds a master's degree in law, but she is also a French woman, with an idea or two about what counts and what doesn't. In 1975, immediately upon picking up her diploma, she chucked the whereases and *res ipsa loquitur*s and joined Mother in the cheese shop.

"I don't regret it a bit," she says, while cheerfully cleaving through the marbled heart of a gorgeously blue-green Roquefort with a slicing wire. "I'd probably be making more money in law, but I wouldn't meet as many people or have as much fun as I do here."

More money in law? Well, perhaps, but when Mother's back was turned I eavesdropped and jotted down the 32 francs ($6) that an old gent extracted from his change purse for two little Saint-Marcellin cheeses the size of hockey pucks. Earlier, in an uncharacteristic moment of inattention, Renée senior had owned up to selling 360,000 of these little beauties a year.

"The meat of the poor" goes upscale

That transaction (and its price) pointed up the great transformation that *fromages fermiers* (farm cheeses) have undergone within the last century or so, from basic sustenance to gourmet treat. "The meat of the poor," cheese used to be called, and until quite recently, it was the principal source of proteins for Europe's peasantry, along with bread and whatever fruits and vegetables they could grow. From cow, ewe and goat, French country folk fashioned a tasty, nourishing foodstuff that could keep without refrigeration for weeks, months or even years. The notion of the artisan hardly existed: country cheese was simply there, an ordinary fact of life, each region and subregion with its specialty.

Modern capitalism turned all that on its head. The move from the countryside to higher-paying jobs in the city became an exodus. Increasingly the newly urbanized work force shopped in supermarkets and ate cheeses and other foods produced on large, mechanized farms and processed in modern plants. Artisanal cheeses became rarer and much more expensive. Over 80 percent of the cheese consumed today in France is made entirely from pasteurized milk. It is generally bland and characterless, but the price is right.

I learned about the realities of price and quality when I visited two places—a generic discount supermarket and the stunning artisanal fromagerie of Roland Barthélemy—located within 100 yards of each other in the royal city of Fontainebleau, 40 miles south of Paris. The discount mart's industrial Camembert was $2.25 a pound, Saint-Nectaire $1.19 and Roquefort $4.26. Over at Roland's place, the prices were anywhere from four to seven times higher: $10, $8.43 and $16.80 for the same varieties, but they most assuredly were not the same products. It was approximately like comparing a plastic Christmas wreath to an evergreen one. "There is alimentary cheese and there is gastronomic cheese," sniffed Barthélemy. "The two cannot be compared."

True enough, and students of foreign relations know that France probably would not be the same today if alimentary cheese had been around in 1815, when Talleyrand, the great tergiversator, pulled his country's

"MISSION CONTROL HOUSTON–
THIS IS MARS, OVER"
Destination:
MARS
What will it take to confirm the existence of life on Mars?
How would you transport tons of food and water...
or survive months of isolation and danger millions of miles
from any other humans? Join astronauts, scientists and
NASA officials on a future mission to the Red Planet.
Strap yourself in – and explore the next frontier!
Premiere: Sunday,
December 1st, 8pm et/pt
Discovery
CHANNEL
EXPLORE YOUR WORLD™
http://www.discovery.com

chestnuts out of the fire at the Congress of Vienna by bombarding Napoleon's conquerors with food. Bringing a mountain of delectable victuals and the celebrated cook Antonin Carême in his baggage train, he seduced the assembled generals and diplomats with an Olympic display of *la cuisine française*, which culminated in a cleverly arranged taste-off between the cheeses of Europe. The Brie de Meaux won hands down and was crowned "king of cheeses" by Metternich himself. If the tasteless $1.28 variety I encountered in the Fontainebleau discount mart had been entered in the Vienna competition, I am confidant that Metternich would have given France to Albania.

Tasteless is something that France's artisanal cheeses definitely are not, today any more than in Talleyrand's time. "Ah, the good lord's feet!" a 19th-century French gastronome famously exclaimed when crossing paths with a particularly ripe Camembert, but it remained for Emile Zola, in *Le Ventre de Paris*, to make the definitive statement in his description of the Paris central market, a tour de force familiar to erudite gourmets everywhere. From enormous mounds of sweet butter to Cantal and Brie, Zola escorts the reader past Camembert smelling of rotten game, Maroilles and Pont l'Evêque powerful enough to bring on nausea, Livarot catching the throat like sulfur powder, Olivets with crusts breaking like open wounds, Livarots crawling with worms and finally, the apotheosis of authenticity, a Géromé of such crushing force that it is surrounded by a ring of dead flies, felled by the gasses reeking upward.

Authenticity of that sort has mostly departed from today's artisanal cheese-makers, but even with the greater attention to cleanliness and discipline that now characterizes their work, they have to defend themselves against encroachment from the sanitizers and industrializers. It was only after an epic battle with the European Union's bureaucrats in Brussels that France persuaded them to accept the principle of cheeses made from raw, unpasteurized milk. Last March, France won another victory when the European Commission published a list of 150 European farm products (36 of which were French cheeses) protected from counterfeit by an exclusive *appellation contrôlée* type of stamp guaranteeing the product's authenticity and restricting the use of its name. Among them, by a nice historical pirouette, was Talleyrand's Brie de Meaux.

The *maître fromager* presents platters that make up a "cheese marathon" served at the Androuët Restaurant in Paris. As many as 150 varieties may be featured, depending on the season. Price? Only $50 per diner.

MAYBE your DAUGHTER

WILL get

RECRUITED by UCONN.

MAYBE SHE'LL

get a SCHOLARSHIP

to STANFORD.

MAYBE you don't LIKE

the WORD "MAYBE."

MUTUAL FUNDS

All parents dream of their child winning a college scholarship. But, obviously, you can't count on it. That's why, at The Hartford, we've added mutual funds to our existing portfolio of investment products. They're a great way to plan for anything from a second home to a college tuition. It's also reassuring to know they're managed by Wellington Management Co. and The Hartford Investment Management Co., two organizations with a proven record of success.

So if you're planning your child's future, look to The Hartford. After that, feel free to invest in an outdoor basketball hoop.

No One's Better Prepared for Tomorrow.

ITT HARTFORD

ITT HARTFORD MUTUAL FUNDS, INC. ARE UNDERWRITTEN BY HARTFORD SECURITIES DISTRIBUTION COMPANY, INC. FOR MORE COMPLETE INFORMATION, INCLUDING A PROSPECTUS, PLEASE CONTACT HARTFORD SECURITIES DISTRIBUTION COMPANY, INC. AT 1-800-445-6385. PLEASE READ IT CAREFULLY BEFORE YOU INVEST OR SEND MONEY.

VISIT OUR WEB SITE AT http://www.itthartford.com

Of course, the appellation contrôlée protection is an old story for French wines, and if cheeses are now tardily gaining status, it seems only fair. After all, the two are inseparably linked. Not only do some cheeses taste better with wine—food snobs can reel off an entire litany of which goes precisely with which—but some are virtually inedible without wine. The Gris de Lille, for example, also known as *vieux puant* (old stinky), which one French guide succinctly summed up as "violent odor, frenetic savor," could not possibly be consumed with anything but a particularly broad-shouldered wine, or maybe a shot of double-strength white lightning, straight from the still. Old stinky is a fine reminder of one of mankind's enduring riddles: How can anything that smells so bad taste so good?

I doubt that anyone has ever been able to sample—or even precisely count—the entire range of France's cheeses, but one way to get a good idea of it is to confront the *menu dégustation* (tasting menu) of the restaurant called Androuët, behind the Saint-Lazare railroad station in Paris. It is a daunting expedition. Temerarious diners, those who sincerely believe the table holds no terror for them, run an all-farm-cheese marathon (La Ronde des Fromages) that starts as a lark and ends in horror as the waiter arrives and arrives again, pitiless, with yet more to be ingested. The menu goes crescendo, from soft seduction to the tough, sweaty T-shirt variety, lusty enough to whip up a flagging appetite, the whole excessive exercise presented in six families: sweet cheeses made of triple cream; pressed cheeses; those with crusts "flowered" by fermentation; goat cheeses; those with crusts "washed" or treated during fermentation—the stinkies; and finally the *persillés*, Roquefort and other blue cheeses. I made the mistake of trying it once, and I won't do it again. By the time the ordeal was over, I was whimpering for surcease, body and soul begging for a bite of steak, some vegetables, fruit or, if they weren't available, a rock or a piece of wood or a chunk of shoe leather—anything but more cheese.

And yet the habit stays on. Regardless of present surfeit, past gluts and future cholesterol counts, the endless fascination with French cheeses abides. They are so beautiful, and there are so many of them, so seductive and so available. How can one fail to be charmed by goat farmer Louis Chevenet, the Paganini of *fromage de chèvre* in the tiny Burgundean hamlet of Hurigny, who gravely explains that his 2,000 *demoiselles* require love, or else their milk will be no good? Chevenet was the first to put tiny butter-churn-shaped cheeses on sticks, like lollipops, and offer them for sale through three-star restaurants and selected cheese shops. Now everyone does it. How can one not fall for a good, ill-tempered neighbor-hater like Andrée Delorme, the suspicious peasant lady in wooden shoes whom I met years ago, yes, in the town of Camembert, who assured me that she was one of only two people left in Normandy making real farm Camembert? (Her neighbor also made it, she admitted grudgingly, but his stuff was no good.) How could I not be awed by the nutritional science of Albert Negron, chef of the railroad-station restaurant (they have them all over France, and they are terrific) in the southern city of Millau, who obliged me to consume a hunk of Roquefort after feeding me a meal that would stupefy a wild boar? The act was purely medicinal, he said, because Roquefort aided digestion. How could I not cherish Jean Gouttebaron, innkeeper in Vendranges, near Roanne, who was frequently unable to collect from his guests, because he was off hunting over hill and dale for farmers making cheeses no one had ever heard of? How could I not agree with the wisdom of Jean Anthelme Brillat-Savarin, judge, politician and author of *Physiologie du goût* (*The Physiology of Taste*), who esteemed that "a meal without cheese is like a beautiful woman who has only one eye"? How can I not feel the thrill of criminal bravado every time I pack a load of unpasteurized cheeses in my suitcase, when I am bound for JFK Airport and its bacteria constabulary?

Trespass of this sort is only a further reflection of the enduring fascination with the multifarious world of French cheeses. The craftsmanship that goes into them represents a bulwark against the creeping codification, normalization and industrialization afflicting our modern world. Doc Knirim was definitely on the right track. I'm not sure I agree with him about Pilsen beer (I rather prefer red wine, myself), but I'll certainly throw a few francs into the pot if anyone comes around collecting for a statue in honor of Renée Richard.

Louis Chevenet communes with some of his goats, which supply milk for more than 20 kinds of cheese.

Chances are their teeth will nee

L u m i n a

Being a parent isn't easy or cheap. So it's got to be a relief to drive a car that could need a lot less attention than your children's teeth. A car that can actually go 100,000 miles before its first scheduled tune-up.* Chevrolet® Lumina.®

Call 1-800-950-2438 or visit www.chevrolet.com *Maintenance needs vary with use and driving conditions. ©1996 GM Corp. Buckle up, America! ▣

ore work than your Lumina.

Its suspension is lubed for life. It even comes with a handy oil-wear sensor. Did we mention it's affordable, too? That's something to smile about on your way to the dentist. And one less thing to worry about.

Genuine Chevrolet
The Cars More Americans Trust.

By Adele Conover

A onetime rancher wages lonely war to save rare plants

Working alone, by hand, one man is turning 100 acres of alien trees into a refuge for Hawaii's endangered botanical treasures

Keith Robinson hauls a tree into the reserve. Slopes (opposite) are now the best place to find rare species.

Chain-sawing in his 100-acre wildlife reserve on the island of Kauai, Keith Robinson drops a foot-thick guava tree in eight seconds. Within minutes, dozens of guavas are brought to their knees, and Hawaii's winter sun shines on a new clearing. Robinson will clear an area of nearly four football fields, some 180,000 square feet of "alien forest": guava, silk oak, monkeypod and Java plum, to name just a few.

A month later, when the rains begin, Robinson will clear the slash with fire and zap recidivist shoots with an herbicide. Where poison can't be used, Robinson fills his ten-gallon backpack sprayer (which he designed) with jet fuel and uses it as a flamethrower to obliterate invaders. (He says his scorched eyebrows always reappear within two weeks.) He'll leave the area fallow for a couple of years while he clears another section, then he'll bring back the native flora—seedling by seedling, plant by plant. After ten years, plants of some 80 native Hawaiian species adorn his Kauai Wildlife Reserve, ranging from purest yellow hibiscus to red-flowered *Kokia*, rare white gardenias to delicate frilly *Hibiscadelphus*. Some species are down to their last few individuals in the wild.

Robinson is a botanically xenophobic Robin Hood whose dream is to reestablish an authentic prehuman piece of Hawaii, a place now awash with introduced species of plants and animals. The first person in his ranching family to graduate from an agronomy department, he is a tough, balding man of 55, always dressed in work shirt and jeans.

"I'm just undoing what my illustrious family did when they secured the land here 130 years ago," he says. Dubbed the "Hawaiian family Robinson" in *Forbes* magazine's 1995 roundup of America's 400 richest people, they sprang from a clan of prosperous Scots. Led by Keith's great-great-grandmother, the redoubtable Eliza Sinclair, they sailed away from their ranching life in New Zealand aboard their 300-ton bark, the *Bessie*, in search of new challenges. After looking at Tahiti and America's Northwest Coast, they landed in Honolulu in 1863, in search of real estate. Although the family was offered Waikiki, Ford Island in Pearl Harbor and other properties on Oahu, they opted for the island of Niihau, for which they paid King Kamehameha IV $10,000. Not long after that the family acquired another 34 square miles on neighboring Kauai. Niihau became a cattle and sheep ranch, as did parts of the Kauai holdings. Pineapple and sugar also figured in the Robinson mix.

Robinson's 100-acre reserve on Kauai is itself an island of biodiversity surrounded by land that not only bears the evidence of these family industries but earlier crops, such as taro, raised by the Polynesians. The oldest major Hawaiian island, Kauai rose from the sea between four million and five million years ago. On the southwestern side of the island, a collapse of the volcanic

Photographs by Gary Braasch

shield created a vast plain sloping down to the sea, the site of Makaweli, the 73,000-acre ranch where Keith Robinson has lived since his birth six months before the Japanese attacked Pearl Harbor.

As a rancher turned conservationist, Keith Robinson is the closest thing to a black sheep this ranching and farming dynasty could produce. He cheerfully blames his "misspent career in conservation" on his maternal grandfather, Allan Matthew, lawyer, conservationist and early member of the National Wildlife Federation. For decades Robinson hiked, scrambled and climbed—"with only air and birds below"—the hanging valleys of Kauai and other islands, collecting rare seeds and plants to cultivate before he began the pioneer grunt work it takes to reconvert a foreign forest to a native ecosystem.

Robinson regards himself as a steward of the land and resents what he views as government interference in his work. In 1994 the U.S. Fish and Wildlife Service (USFWS) published the first draft of its recovery plan for two extremely rare plant species. Robinson was growing both on his land, and interpreted the phrase "secure and manage" as a plan to take his property. He protested to Mollie Beattie, the late director of the USFWS. She assured him the government had no intention of acquiring or managing his reserve.

On the state level, Robinson fully expected to go to prison for violation of the state's new endangered species law. The new law, however, has never been enforced (a large number of citizens would be doing time for possession if it were) and is now being revised.

Perhaps harking back to the days when President Franklin Roosevelt eyed Niihau as a possible site for the United Nations headquarters, the whole of the Robin-

Adele Conover, a wildlife biologist, writes about all aspects of natural history and field biology, from blue whales to fauna inside tropical bamboo stems.

Sugarcane soaks up sunlight in fields owned by the Robinson family on the southern coast of Kauai.

In a patch cleared of alien plants, Keith Robinson protects endangered plant seedlings with wire fencing.

son clan has long been leery of outside intervention of any kind. Because access to the 75-square-mile island is limited to Robinson-approved visitors, Niihau has been known for decades as "the Forbidden Island." Today Bruce Robinson, Keith's brother, manages the island and is married to a Niihauan. On the island both the Niihauans and the Robinsons speak soft, lilting Hawaiian. Endemic plants like the palm *Pritchardia aylmer-robinsonii* grow here, and the tidal ponds are alive with the slithering of moray eels. The beaches abound with rare shells. A small population of endangered Hawaiian monk seals (SMITHSONIAN, December 1991)—including rare white ones—thrives here.

The island's present status has quite a history. Keith's uncle Aylmer Robinson, who ran Niihau Ranch for 45 years, died in 1968. His will stipulated that the subsidy he had been paying to maintain the payroll should continue as an assurance that every male resident of the island would have a job. Aylmer wanted the island to remain "a Hawaiian community that is something distinctive." Keith's father, Lester, maintained the tradition when he inherited the island. And after his death in 1969, the *Honolulu Advertiser* noted that Lester had impressed on his heirs, Keith and Bruce, the hope that the island remain "as something removed from time."

To the social activists of the late 1960s and early 1970s, however, that smacked of paternalism. John Burns, the governor at the time, expressed concern that the Niihauans lived in a Robinson-imposed feudal state. He proposed that the state government buy the island to build a Hawaiian culture park that would hire Niihauan cowboys as park guards. Few believed the resident Niihauans when they said that they liked things the way they were. Although the state never got the island, in the early 1970s it did condemn some Robinson holdings on Kauai to create a state park.

A Robinson helicopter in the movies

By 1985, the social climate had changed: purists on Kauai wanted Niihau to remain "pristine," and the Robinsons had to lay out some $100,000 in a legal battle to win a heliport license. Bought for use as a medivac and a sightseeing ferry, in a tentative step toward limited touring, the helicopter also earned its keep when it appeared in the Steven Spielberg film *Jurassic Park*, which featured shots of Robinson land near the reserve.

Despite his distrust of government agencies, Keith Robinson provides the state foresters with cuttings and seeds from his reserve. "We've got all we can handle to manage 90,000 acres of state land with only 22 employees," says Ed Petteys, Kauai district manager of state forestry. "We depend on Keith."

"If he says he'll do something, he'll do it. If he collects a plant or a seed, he doesn't just stick it in his pocket for

Robinson carefully puts in a rare, indigenous plant. The species at right are all endangered; Robinson grows most of them on his Kauai Wildlife Reserve.

Jim Denny

Flower of *Kokia kauaiensis* tree

A *Gardenia brighamii* flower

three weeks. He'll run right down and ship it to me at Lyon in a few hours," says Charles Lamoureux, director of the University of Hawaii's Lyon Arboretum in Honolulu. "I wish I had ten Keith Robinsons on every island," he adds. Robinson and Lamoureux have long been like two collectors swapping baseball cards as they exchange seeds and cuttings of Hawaiian native flora.

"Keith Robinson is the sole guardian of more than a dozen species of the rarest of the rare," says John Fay, a botanist in the Office of Endangered Species of the USFWS. "Keith's reserve is an unparalleled achievement. There isn't anything analogous to it anywhere."

Chance alone determined the ancestral Hawaiian flora as the volcanic islands emerged from the sea. The 250 or so original higher plant species blew, floated or hitched a ride via birds or perhaps insects from the American continents, Australia and the western Pacific. Although these colonizers faced earthquakes, volcanic eruptions and hurricanes, there were few predators. Consequently, the plants lost defenses such as thorns and the chemical weaponry of unpleasant taste or poisons. In an enormous diversity of habitats, they evolved into 1,800 benign species whose odd beauty strains the tropical biologist's roll call of superlatives.

By the time Europeans arrived, however, the decimation of Hawaiian biota was well under way. The islands' first human residents, the Polynesians, had arrived 14 centuries earlier, bringing pigs, dogs, rats, plants—and a human desire to rearrange things. With fire they transformed large areas into a landscape fit for crops. They created ponds for irrigation and aquaculture. They not only destroyed habitats, they drove bird species—hunted for food and feathers—to extinction.

Europeans commented on the changes wrought by the Polynesians just before they began their own more extensive transformations. Capt. James Cook, who reached the islands in 1778, remarked at the barren and unwooded character of the lowlands. George Vancouver reported that on Kauai the "sides of the hills extending from these [taro] plantations to the commencement of the forest, a space comprehending at least one half of the island, . . . [have] the appearance of having undergone the action of fire."

Cook, "being very desirous of benefitting these poor people," left on Niihau melon, pumpkin and onion seeds, as well as goats, sheep and large European pigs. Vancouver's contribution of cattle to Hawaii in the 1790s meant curtains for many plant species. With no predators to hold them in check, cattle and pig populations flourished, trampling ground cover and browsing on tree seedlings. The years 1815-1921 have been referred to as the "cattle period in Hawaiian forestry."

Lobelia yuccoides

New leaf on a *Hibiscadelphus*

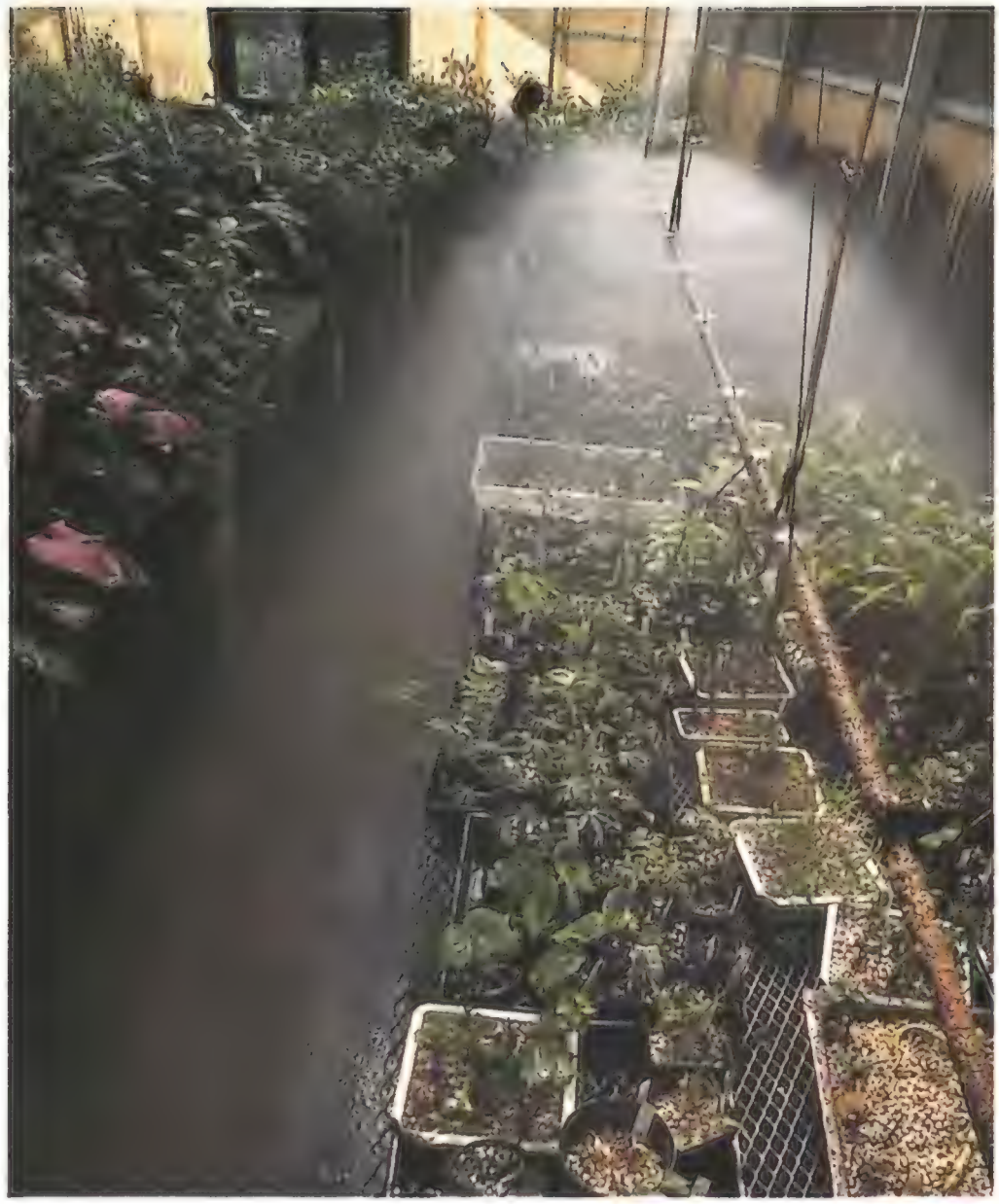
Hibiscus brackenridgei

Isabella Sinclair, Keith Robinson's great-great-aunt and the author and illustrator of the first book of Hawaiian flora, warned of coming disaster. "The Hawaiian flora seems to grow in an easy, careless way," she wrote, "which, though pleasingly artistic, and well adapted to what may be termed the natural state of the islands, will not long survive the invasions of foreign plants and changed conditions. Forest fires, animals and agriculture, have so changed the islands, within the last fifty or sixty years, that one can now travel for miles . . . without finding a single indigenous plant; the ground being wholly taken possession of by weeds, shrubs and grasses, imported from various countries. . . ." The invaders, continued Sinclair, were "spreading as if by magic, and rapidly exterminating much of the native flora."

By 1903 the first forest reserve was established in Hawaii but not primarily for native biota. Rather, planters began to comprehend what the erosion of the watershed would mean for agriculture, especially sugarcane, which must be irrigated. They planted fast-growing exotic trees. Then in the 1950s, the State Division of Forestry bulldozed native koa forests to plant foreign pine trees for a fledgling timber industry. As late as 1969-70 state foresters continued to bulldoze virgin ohia lehua and treefern to plant Norfolk pine, Monterey cypress and eucalyptus.

Today the rate of disappearance of species is so critical in Hawaii that anyone who seeks to stem their departure must go to unusual lengths, and Keith Robinson is no exception. On a typical day he drives to Kauai's Lihue Airport to meet his botanical scouts, Steven Lee Montgomery, after whom dozens of species have been named, and a state trail coordinator, Aaron Lowe. The expedition proceeds 40 miles west to the steep cliffs that flank the remote Kalalau Valley, where 20 newly discovered plant species have been found in the past five years alone. Montgomery and Lowe will descend by rope to gather leaves and twigs from the four specimens of *Hibiscadelphus woodii*, today one of the rarest plants on the planet.

The botanical treasure was first spotted by Montgomery, along with arborists Ken Wood (for whom the plant is named) and Mark Query, in 1991. *Hibiscadelphus*, a tree genus, was first discovered in 1911. The little tree is closely related to hibiscus, hence its name: literally, "brother of hibiscus." Unlike those of hibiscus, however, its flowers are not showy; they fail to open their petals completely, instead curling them into curved tubes. Today the *Hibiscadelphus* species are almost all presumed extinct, because the birds that pollinate them, the curve-billed honey eaters and most of the honeycreepers, have also disappeared.



At the Lyon Arboretum in Honolulu, shoots of *Hibiscadelphus woodii* were propagated by tissue culture; a mist table (right) gives seedlings the wet environment they need.

The quest leads the team to a dense thicket in Koke'e State Park in search of a trail leading to the valley rim. Somewhere 500 to 1,000 feet down are the overhanging rocks that hide the *Hibiscadelphus*. After thrashing through thickets of aliens—guava, fleabane and blackberry—they break into the clear, onto crumbling rock and the top of the valley wall. It takes an hour to descend 500 feet. Then Montgomery and Lowe suit up in serious climbing gear to rappel the last 120 feet to the four little trees. A dragonfly-size helicopter trolls a canyon below. Seamless fog, which usually obscures only the top of nearby Mount Waialeale, has begun to descend. When rain begins in earnest, Keith Robinson erupts. "Nothing is worth this!" he yells. "Not one species. Montgomery, get your worthless hide back up here."

A shout comes from below. The elusive *Hibiscadelphus* trees have been found! A few leaves and buds are harvested. Montgomery, who is higher up, begins his ascent; Lowe follows. The rope dislodges a large rock, which grazes Lowe's leg as it goes by.

Back at park headquarters, Montgomery and Robinson pore over the prize. Montgomery, an entomologist by trade, hungrily teases insects from the *Hibiscadelphus* (subsequently, he identifies three probable new species). But Robinson is as fidgety as a new father. "Be careful, Montgomery!" he says. Tomorrow he will drive the collected leaves and buds to the Lihue Airport and send them via the 6:30 A.M. commuter flight to Honolulu and thence to Greg Koob at the University of Hawaii's Lyon Arboretum. Koob will place bud tissue in sterile test tubes with a growing medium that favors the development of shoots.

John Fay is a major exception to Robinson's shunning of government types: they've been friends for 20 years. "We first met in 1975," says Fay, "when I was the staff botanist at the NTBG [National Tropical Botanical Garden—then the Pacific Tropical Botanical Garden]. Robinson was foreman at the Koolau Ranch [one of several "divisions" in the family business]. And he just walked in. Here came a Robinson," Fay continues, "with a bunch of plants he'd collected which he was curious about." They began going on botanizing trips together. Robinson remembers that when Fay gave him his first look at *Kokia kauaiensis* trees (among the scarcest trees in Hawaii), he fell in love: "I was so overwhelmed by the show that I told him then and there, on the spot, that I'd do my utmost to keep that species going."

Robinson began by planting a few rare species in the uplands of the Koolau Ranch. But more and more he was drawn to his avocation—rescuing Hawaii's plants. He began to plan a reserve.

On the outs with the family business, which had no in-

Select Styles Emporium

To Order Toll Free 1-800-580-9445

American Heritage Dictionary is a powerful instant

reference tool for home, school or office. This deluxe desktop edition is a multifaceted wonder. It provides over 220,000 definitions for 80,000 entry words -Features the Roget's II New Thesaurus with 500,000 synonyms for enhanced vocabulary- The *EZ*-learn Teaching System for vocabulary building and Advanced phonetic function Spell-Checker with 100,000 word multiple spelling choice capability. *And it's also* a full function Calculator with currency and metric conversions. The WP5501 is a must for anyone who would appreciate an increased command of the English language. The sleek design measures 4" wide , 5¾" long and ¾" high - runs on lithium batteries, included. **#1SM101** **$99.00** ($6.95 S&H)

The Ultrasonic Deterent - The Dazer™ is a hand

held dog deterent. Utilizing safe, humane, ultra sound technology the Dazer is a must for joggers, walkers, bicyclists, the postman and especially Kids and Seniors. The Dazer works by producing a discomforting, but not harmful, high frequency sound audible only to dogs but not humans. Unlike mace and other chemical deterents there is no harm to the animal. Its compact and lightweight and features a belt clip for easy carrying. Shipped with a 9 volt battery. **#1SM202** **$34.98** ($5.95 S&H)

The Original Orthopedic Seat Cushion. Scien-

tifically designed to relieve and prevent lower back pain. The unique wedge shape design tips the pelvis forward to help restore the spines' natural lumbar curve. The Tush Cush measures 14" x 18" and is constructed of a durable, washable cover and resiliant polyurethane foam wedge. Available in Blue, Black or Charcoal. **#1SM303** **$39.98** ($5.95 S&H)

Nature's Air Freshening Secret - The Ionizer

The plug-in room Air Ionizer works on the principle of negative ionization. Negative Ions trap air pollutants on a removable dirt collection pad that easily rinses clean. The Ionizer will eliminate particles of pollen, dust, smoke and kitchen and bathroom odors. The tiny, 3" x 1½" wonder, plugs into any 110V wall outlet for inconspicuous operation. **#1SM104**

$39.98 ($4.95 S&H) ***SAVE!*** **2 for $75.98** ($7.95 S&H)

Back Relief Massager - Do hours of prolonged

sitting leave you with an aching back? Then the Back Relief is just what the doctor ordered. Its unique design features an inflatable lumbar cushion. You can select low or high intensity, upper or lower back massage with or without soothing heat, all from a handy remote control. Perfect for any vehicle, office or home the Back Relief comes with both a wall outlet adapter and a cigarette lighter adapter. Covered in plush, durable fabric the Back Relief looks as good as it makes your back feel. **#1SM103** **$99.98** ($6.95 S&H)

Unbelievably Bright - Fully Rechargeable *MILLION CANDLE SPOTLIGHT*

This bright one million candlepower beam is more powerful than aircraft landing lights - 20X brighter than auto headlights - and will carry for over 1 mile. Operates from any 12 volt power source when the batteries are in need of recharging. The light features a super bright100 watt Quartz Halogen Lamp, full protective shield around the Lexan® Lens and computer designed parabolic reflector. Crafted of high-impact space-age plastic.

#1SM606 **$89.98** ($7.95 S&H)

CALL TOLL FREE 1-800-580-9445 FOR FASTER SERVICE

Satisfaction Guaranteed - 30 Day money back - Exchange or Refund

TO ORDER BY MAIL: **Send check or money order for total amount of merchandise plus shipping and handling. Please make checks payable to : Point to Point Distribution at P.O. Box 2007, Brick, New Jersey 08723. If you pay by credit card please make sure to include your account number and expiration date. New Jersey residents please add 6% sales tax. Sorry no foreign or COD orders.**

Advertisement

terest in his project, he needed cash to finance his botanical habit. The first thing he did was to design and supervise the building of a 32-foot fishing boat—the *Lehua*—and become a commercial fisherman. "A tough way to make a living," comments Fay. "Not only did he fish alone and at night, he was chronically seasick." But he kept at it.

By 1985, he had enough money to lease the site for the reserve from his family. For botanical advice, he recruited Fay, Montgomery and a couple of other specialists. A preliminary survey of the two-level site—an area in a valley and a cooler, wetter location higher up—revealed remnants of native vegetation as well as what Fay calls a "forest of aliens—thickets of strawberry guava, and stands of silk oak so dense that it was difficult to thread one's way between the trunks." Fay adds: "We turned to Keith and said, 'Are you sure you want to do this?' Quite frankly, we thought it was almost impossible . . . especially for a man working alone."

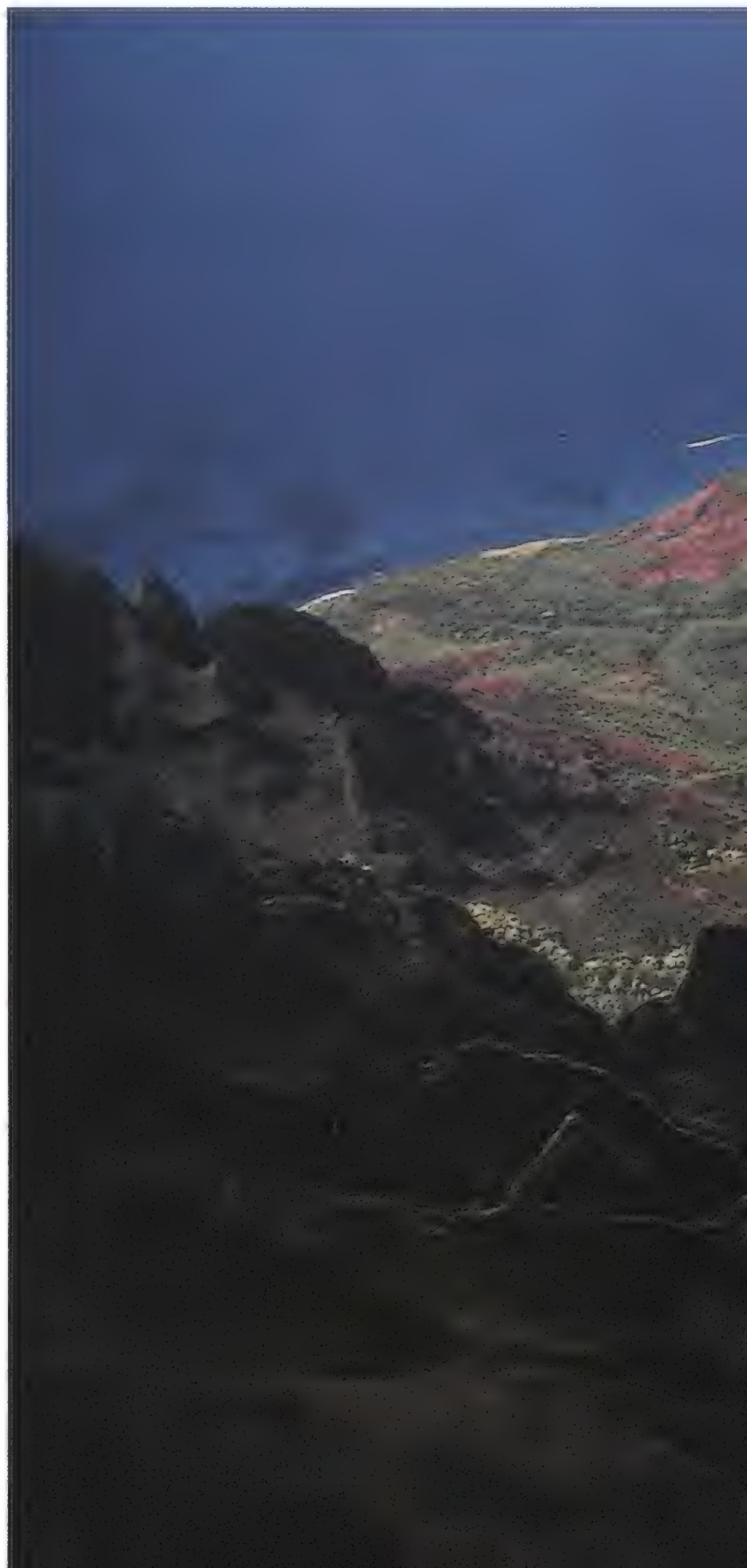
By early 1987, Fay had changed his mind. "The difference was amazing," he says, "and I began to think if anyone could pull this off, Keith could. There were trails at both levels, and in the lower reserve about ten acres had been cleared and planted with the propagated stock of rare trees and shrubs. What really got me excited was the sight of a young volunteer of an extremely rare Hawaiian plant, *Lipochaeta micrantha*, a small-flowered member of the sunflower family."

For the next few years, Robinson would fish for two weeks, then resume work on the reserve for the rest of the month—often chopping, sawing, hauling and burning well into the night. In addition to doing the back-breaking work of clearing land, he enclosed much of the 100 acres with an electric fence to discourage cattle. He also "corralled" individual seedlings with 14-gauge welded wire, bolstered by half-inch rebar posts, as the first line of defense against feral pigs. Robinson estimates that he carried two tons of fencing on his back in 55-pound rolls to both levels of the reserve. Each plant of each species had to be matched to suitable soils, elevations and other conditions. Because the area is often short of rainfall, Robinson hauled water—bucket by bucket—from local streams.

In the late 1980s, a major scourge appeared in the form of an enemy that weighs less than an eyelash: the two-spotted leafhopper, an alien from Southeast Asia. Unlike many insects, it didn't wipe out just a couple of species. The leafhopper acquired a taste for lots of them, especially endangered plants such as Robinson's first love, the *Kokia kauaiensis*. He began the vigilant regime that he continues to this day, spraying every tree every two weeks.

On the way to the reserve, Robinson's dusty brown truck hugs the dirt road climbing through zones of foreign plants: ordered sugarcane fields to mesas of lantana (an introduced shrubby plant that has commandeered many dry Hawaiian habitats) and reddish molasses grass interspersed with introduced cacti that look as out of place as a drugstore cowboy.

Eight gates and an hour later, Robinson parks the truck and packs up the tools of his trade: a stuffed back-



In nearly inaccessible places, such as the slopes of the Kalalau Valley, endangered plants still hang on.

pack, a chain saw and a cane knife, an M14 (for shooting feral pigs), a roll of fencing wire and a sapling in a plastic bucket. Loaded like a Sherpa, he climbs until he reaches a high meadow, the result of relentless clearing from several years back. Now the new field is dotted with small trees. Recycled plastic bags attached to each one's "paddock" flutter in the breeze. "Cheap scarecrows," says Robinson. "Fools the pigs for a while."

He prepares a place for the little tree, first excavating a symmetrical hole, then adding a dollop of fertilizer. After the tree is planted, he pats the soil gently around its roots. Then the final touch. Robinson hikes half a mile to a stream to fill the plastic bucket with water. After he hauls it back, he uses his hard hat to scoop out doses for this plant and others.

Gesturing to a gulch just above a grove of ohia lehua trees, Robinson says, "That's where I'll plant *Hibiscadelphus woodii*." For the first time in days he is calm. Three months later, botanical history is made. Greg Koob at the Lyon Arboretum has succeeded in coaxing tiny plants to grow from the spoils of the foray to the crumbling cliffs of Kalalau. There is still hope.

WHEN PEOPLE STARTED TELLING US THEY HATED IT, WE KNEW WE HAD A WINNER.

January 5, 1991: Prototype for all-new full-size Dodge pickup is shown to groups of truck owners. Their verdict: It's a really nice truck. Just like everybody else's.

*April 23, 1996: Strategic Vision confers its 1996 Total Quality Award™ for "Best Ownership Experience" for full-size pickups on Dodge Ram.**

September 1, 1993: New Dodge Ram Pickup named Motor Trend's Truck of the Year. Not to be outdone, Texas Auto Writers Association dubs Ram "Truck of Texas."

January 6, 1993: New Dodge Ram Pickup is introduced. Quote from Motor Trend: "Behind its aggressive appearance is a solid, powerful pickup that's all business where it counts ..."

Everybody in the car business talks about eliminating problems: squelching squeaks and rattles, raising the bar on reliability. At Chrysler Corporation, we've been winning major accolades for product excellence for the past several years. But to us, success is a lot more than just avoiding mistakes: It's a truck design that gets your blood pumping. The sound of a V10 engine clearing its throat. Giving people the freedom to create products that aren't for every-

Visit our World Wide Web site at http://www.chryslercorp.com, or call toll-free 1-888-GREATCARS. **Resale calculated using average trade-in values for full-size '94-'95 models v editions. Always wear your seat belt. *Strategic Vision's 1996 Vehicle Experience Study℠ surveyed 35,652 October-November new vehicle buyers of 200-plus models after the firs

February 6, 1991:
With launch just 25 months away, design team starts over.

March 14, 1991:
Designer discovers a book on the history of American pickups. Meanwhile in the United Arab Emirates, Sheik Hamad Bin Hamdan Al-Nahyan is building a 60-foot replica of a 1942 Dodge Power Wagon.

April 20-24, 1991:
Design team visits construction site, observes how workers really use their trucks. Collision with 'dozer narrowly avoided.

June 6, 1991:
Merging onto I-75 with 20-ton semi on their bumper, designers have instincts for revised design confirmed.

November 4, 1991:
Aggressive new truck design is shown to consumers. The verdict: They either love it or hate it. (Luckily, they mostly love it.) Chrysler honchos say, "Build it."

March 12, 1992:
Interior design team dons thick work gloves to test operation of knobs and switches in the cab under real-world conditions.

April 10, 1992:
Power train team adds Magnum V10, cast-iron cousin to the 400 hp Viper V10 and the most powerful engine ever in a pickup, as power plant option.

body. Considering that our Ram Pickup has the highest resale value** in its category–not to mention a bed full of "Best of" awards–it seems we're on to something. Besides, it's the only way we know to build great cars and trucks.

MSRPs published in Jan. '95-Mar. '96 N.A.D.A. Official Used Car Guide® monthly 90 days of ownership.

GREAT CARS. GREAT TRUCKS.

CHRYSLER CORPORATION

By Donald McCaig

The dogs that go to work, and play, all day—for science

Geneticist Jasper Rine and his colleagues launched the Dog Genome Initiative to elucidate both canine genes and behavior

Bright and early each morning, Gregor Mendel rises from his sheepskin in the bedroom, yawns, stretches and steps outside his suburban California home. After breakfast he jumps into the car with his mate, Pepper, for the ride to the university. There, on a secluded lawn outside Barker Hall, Gregor goes to work. Gregor is a tennis ball worker. He fetches tennis balls and snaps them up in midair. At the "left" command, Gregor veers to intercept a toss. "Right!" Gregor anticipates the ball thrower to make a brilliant catch. "Down!" Gregor hits the ground, all aquiver. Except for the brisk commands and the rush of his feet through the grass, Gregor's work is silent. Border collies rarely bark. "Grounder!" Gregor sets himself to scoop up a grasscutter.

While Gregor is working on balls, Pepper works the crowd, making herself agreeable to anybody around. Pepper is a Newfoundland bitch. She greatly prefers water and people to tennis balls.

Gregor and Pepper are an odd canine couple. Like many another union of notable dogs, their marriage was arranged with a view to progeny. The man who arranged it is no ordinary dog breeder, though; he is Jasper Rine, a 43-year-old professor of genetics at the University of California and until lately director of Lawrence/Berkeley Laboratory's Human Genome Center.

Border collie Gregor is named for Gregor Mendel, the 19th-century monk who invented the science of genetics. Under Rine's supervision, Gregor and Pepper, their seven offspring (known as the F-1 generation) and thus far 23 grandchildren (the F-2 generation) are part of a protracted attempt to isolate and identify canine genes using the latest technology for investigating DNA. Rine, his fellow scientists, the dogs and the dog owners (collectively known as the Dog Genome Initiative) are also engaged in what is likely to become the most significant long-term observations of canine behavior yet.

Most of the genes in dogs are very similar to those in humans. Each gene is at least 85 percent identical in the language of the genetic code. Rine's research is an offshoot of the vast Human Genome Project being conducted by scientists around the world, in an attempt to locate and identify the 50,000-100,000 genes concealed along the double helix of human DNA.

Of all mammals, dogs display the greatest genetic variety. From the wolf ancestor, 20,000 years ago, the dog has evolved into myriad unalike breeds. Some dogs are big enough to pull carts. Others can be tucked into a coat pocket.

In theory Rine could have used any two breeds. In fact he chose Border collies and Newfoundlands for reasons both cultural and genetic. The Dog Genome Initiative wanted its puppies cared for by volunteer families in dog-loving homes, most of them in the green and cheerful suburbs around Berkeley. The puppies would need to be superior pets, welcome in their new communities. Each prospective owner agreed to rear the puppy properly, keep it for the dog's lifetime (or return it to Rine) and, if the puppy was a female, let her have litters of her own.

Genetically, Rine needed dogs as different from one another as possible. In 1865 when Gregor Mendel reported the results of his remarkable experiments, he identified what is transmitted in heredity, and then distinguished between dominant and recessive elements. Because of Mendel, generations of high school biology students have learned that in humans, for instance, brown eyes are dominant, and blue eyes, recessive. If you have brown eyes, you either have inherited the trait from both parents and carry two dominant genes (BB), or from only one parent, which means you carry both dominant and recessive genes for the trait (Bb). For you to exhibit a recessive trait, like blue eyes, both genes for the trait have to be recessive (bb).

Mendel never heard of chromosomes. But today we know that in each cell of our bodies (except for sperm and ova), there are 23 pairs of chromosomes, basically one set of chromosomes inherited intact from each parent. (Dogs have 39 pairs.) If two traits are controlled by genes located near each other on the same chromosome, you are very likely to inherit them together. And if

Born to breed true: Newfoundland Pepper and her mate, Border collie Gregor, show distinct inherited behavior traits that may be linked to specific genes.

Observable traits

Behavior	Gregor	Pepper
Crouch	Strong	Absent
Showing eye	Strong	Absent
Eye contact with owner	Strong	Absent
Biddability	Strong	Absent
Tail posture when running	Held low	Held high
Barking at home	Very low	Moderate
Running gait	Sprint	Bounding
Scent vs. sight orientation	Sight	Scent
Sensitivity to unexpected noise	Sensitive	Insensitive
Water preference	Low	High
Response to family member in water	Indifferent	Attentive/ intervening
Affection demands	Low	High
Sociability with other dogs	Low	High

Border collie Gregor "shows eye"—one of the traits that differentiates him from Pepper.

both of the genes are dominant, you'll exhibit both traits.

Despite their more profound understanding of the mechanics of genetics, modern geneticists like Jasper Rine still use Mendel's basic model. First step: find what are called true breeders—varieties of a species that produce essentially identical offspring. For Rine, that meant purebreds. That would ensure that any dominant traits were inherited from both parents. Second step: breed unalikes. And Border collies and Newfoundlands could hardly be more unalike.

Gregor is a black-and-white dog. Pepper is almost entirely black. Border collies have little use for water. Newfoundlands revel in it. Border collies are not large (they average 35 pounds). "Newfies" are huge (up to 150 pounds). Border collies are brainy and intense, much less devoted to people than to work. So keen are they to work, they turn play into work, crouching and glaring (known as "showing eye") at a wayward sheep or a departing tennis ball with a passion and concentration some dog owners find exhausting just to watch. Newfoundlands are easygoing creatures, supremely affectionate and loyal to (and protective of) people.

Both Newfoundlands and Border collies are extraordinary breeds. After 15 years of breeding, training and working Border collies, I've come to believe they are the most intelligent dogs in the world. I've watched them on Scottish cliffs, a long mile away, shifting sheep to shepherd's whistles only slightly more audible than birdcalls. I've timed a dog, 300 yards from his shepherd, taking 20 commands in 15 seconds. They can put sheep anywhere you want them or take a sick or lambing ewe from the flock, bring it back to the barn and pen it up safely.

Some Border collies are affectionate, but many view human companions with all the deep affection a commuter has for his car pool—mainly as a necessary means of getting to a job. Border collies have never been bred for qualities that make fond pets. I once asked noted trainer Florence Wilson about Mist, a dog that never quite lived up to her early promise in trial competition. "Mist's problem," Florence explained, "was that she loved me more than she loved her work."

The obsessive skill of Border collies at ordering disorderly livestock is legendary. A Gary Larson *Far Side* cartoon, for instance, shows a sheep hostess distressed over the rowdy confusion at her cocktail party. "Henry! Our party's total chaos," she wails. "No one knows when to eat, where to stand, what to. . . . Oh thank God! Here comes a border collie!" Accounts of Border collie skill and devotion to work abound. In 1824, Scottish shepherd James Hogg wrote of a Border collie who, as she drove her master's sheep to market, began dropping pups. She gave birth to her litter while managing to keep the flock together and headed in the right direction. Only when all the sheep were safely delivered did she run back, picking the pups up one by one. In the in-

Berkeley geneticist Jasper Rine, shown here with three puppies born to offspring of Pepper and Gregor, believes research will yield results that may help breeders eliminate genetically linked canine diseases.

terval, one had died from want of its mother's attention.

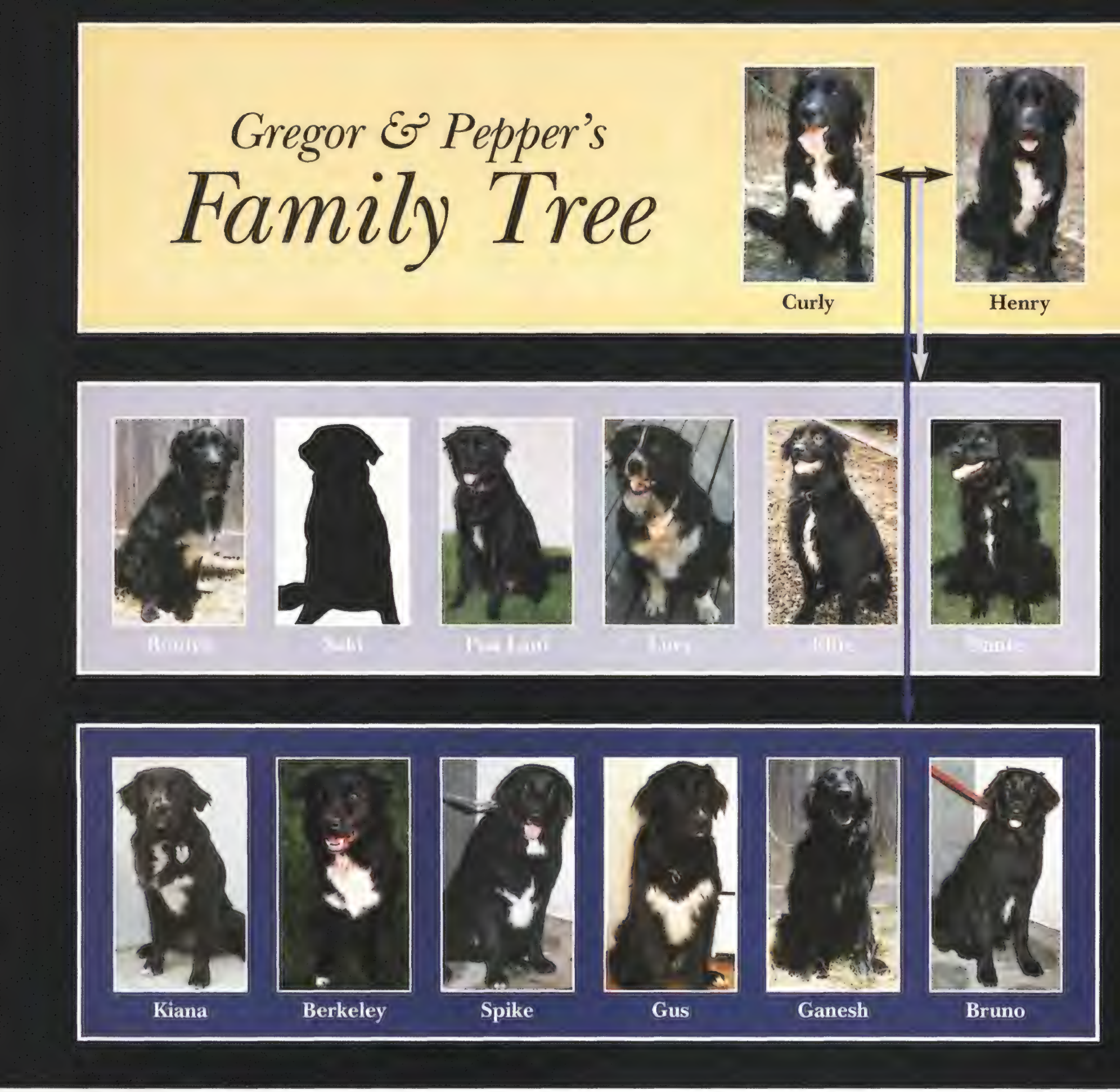
Border collies have been bred for some 500 years to herd sheep. Newfies were traditionally seamen's dogs, bred to save drowning mariners. They are hydrophilic (water-loving), and have webbing between their toes and a double coat that is water-resistant. Newfoundlands will drag boats and people out of the water and have almost supernatural powers of scent when searching for drowning victims in deep or rough waters. During a search they will sit in the bow of the boat and, as they near the victim's position, give the alert, some by licking their handler's face, some even by jumping overboard and swimming in circles over the body.

The most legendary rescue is said to have occurred in 1919, when the SS *Ethie* went aground off Newfoundland and a Newfie carried a lifeline through surf that would have drowned any human swimmer. Before the wreck broke up, nearly 100 people were brought safely ashore. The Newfoundland dog Boatswain (1803-1808) achieved literary immortality when Lord Byron provided his epitaph. In the inscription written for the dog's gravestone at Newstead Abbey in England, Byron noted that Boatswain possessed "Beauty without Vanity, / Strength without Insolence / Courage without Ferocity, / and all the Virtues of Man without his Vices. . . ."

Gregor belongs to Jasper Rine, who worked with a Border collie as a teenager on an upstate New York farm. Pepper belongs to his wife, Marilyn. (The Rines' recent wedding was restricted to immediate family. Naturally, Gregor and Pepper grin out of the wedding photograph.) By the time Pepper whelped in November 1992, the scientific part of Rine's far-flung Dog Genome Initiative team was ready and waiting: Rine's lab staff and associates at Berkeley, including Mark Neff, a molecular geneticist, and Candy Gaiser, a geneticist who also is one of the most agile dog handlers in the country; geneticists George Sprague and D. Ry Meeks-Wagner from the University of Oregon; and Elaine Ostrander, a staff scientist at the Fred Hutchinson Cancer Research Center in Seattle. But most eager for the pups' arrival were their new owners, who had signed up because of their interest in the science or because they just wanted a dog or sometimes both.

Rine's scientists also studied and videotaped Gregor

Writer and Border collie trainer Donald McCaig is the author of Nop's Trials, *a novel about a gifted sheepherding dog, and its sequel,* Nop's Hope.



and Pepper. Finally, they put together a list of 31 observable behavior traits, different in each parent, that they hoped would eventually segregate into single, detectable (and, they originally theorized, dominant) genes that could eventually be located along the dogs' long strips of DNA.

Over a period of two years Pepper obligingly had seven healthy pups, an F-1 generation of four males, three females. Their names, chosen by their owners, were Barnaby, Curly, Geno, Henry, Minsky, Roz and Huxley.

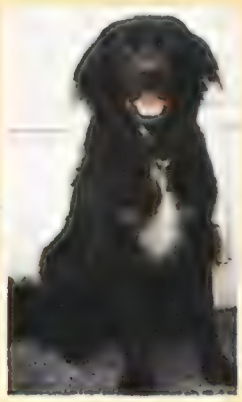
The owners had agreed to breed their female pups twice. At between 4 and 6 months of age, all pups would give blood samples for DNA. The new owners also agreed to bring their pups back regularly for picnics and reunions where the Dog Genome Initiative scientists could observe behaviors, measure the dogs against a grid, and photograph and weigh them.

The reunions occurred beside bodies of water so pups inclined to splash around could do so. The pups were enticed by tennis balls (motion triggers the herding instinct in Border collies) and invited to swim. These tests were not always as perfectly controlled as the scientists might have wished. At one early test/picnic at a Sonoma County ranch, the scientists learned that unlike Gregor,

Minsky

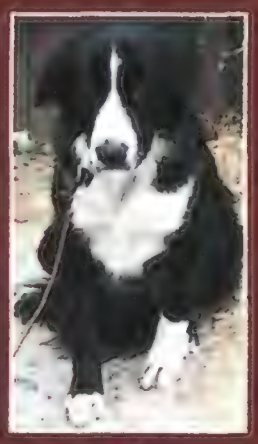
Geno

Roz

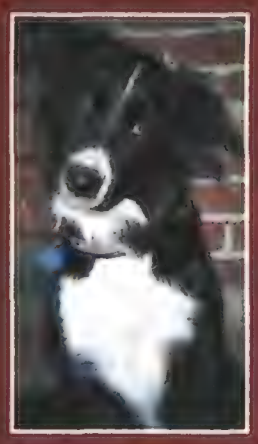


Barnaby

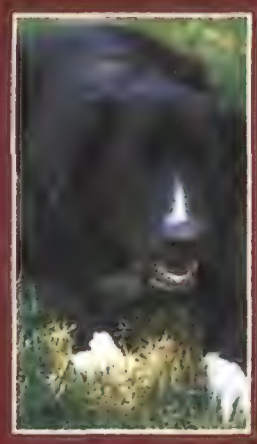
Huxley



Babe



Summer



Elmo

Panda

the F-1 puppies viewed fetch as play, not work. Puppy Roz was distracted from the exercise because she was too busy barking at cows.

When scientists took the dogs on a bayside outing, Pepper paddled around happily in the water, Gregor worked his tennis ball on shore, and their poor F-1 offspring Minsky was faced with a genetic crisis of conscience: Was she a sheepdog or a rescue dog? She'd race to the water in case some swimmer needed her and then race back to chase the tennis ball.

Physically, the F-1 pups were smaller than Pepper, larger than Gregor. Mostly black with a little white on the chest and the tip of the tail, they looked more like Newfoundlands than Border collies. None had Gregor's intensity. As expected, though, the F-1s were very similar to one another. Because Gregor and Pepper were true breeders, their offspring would all exhibit the same dominant traits—whatever those traits might be. The scientists expected that many of the traits they were trying to isolate, like those for crouch and eye and water preference, would be dominant. They soon learned that their hunch was correct: the F-1 dogs were each an undifferentiated mixture of all the behavioral traits the scientists were studying. Curly, for example, is as maniacal

In a 19th-century oil, Border collies help a shepherd turn his flock. The breed originated sometime before 1500 in the rolling upland between Scotland and England, home to legendary sheepdogs ever since.

a tennis ball specialist as her Border collie father, and as strong and eager a swimmer as her Newfie mother.

As a geneticist, Rine knew that in the third generation (the F-2s), traits that could segregate would segregate. Traits like water-loving/indifferent, people-friendly/aloof would begin appearing independently of one another in the different F-2 pups. Once these behaviors were identified in the F-2s, the scientists could begin the painstaking process of trying to locate the corresponding genes on the dogs' DNA.

Henry and Curly's litter of six arrived in June 1994. That July, Geno and Minsky produced three pups. Barnaby and Roz's litter came in August 1995. In October 1995, Henry and Curly produced six more puppies, and then Henry and Minsky had four last May, for a total of 23 (the May litter is not yet a part of the project and is not included in the family tree on pp. 130-131). Twelve females, 11 males. Like their F-1 parents, the F-2 puppies were placed in loving homes. Most of the pups seemed to have the intellectual capacity of the Border collie with a Newfie's social graces. "Their owners are wildly happy," says Rine. "There's an enormous demand for another litter, and I'm told that the pups are at the top of their obedience classes. Of course," he laughs, "that's like a parent telling you how bright his kid is."

As expected, the F-2s varied physically more than their F-1 parents. They were either bigger or smaller than their parents, and whereas the F-1s were predominantly black, some of the F-2s were liberally splotched with white. Like the F-1s, the F-2s were periodically weighed and measured against a grid and tested with a tennis ball for play/work, attention span, fondness of water and so on. These regular outings with a growing pack of dogs soon provided not only simple measurements but delicate distinctions about such things as how much individual dogs cock their ears, the exact angle of tail carriage (like a Border collie or not), how much they love people, whether they show eye or not.

Predictably, there were all sorts of combinations. Pua Lani, for instance, proved indifferent to swimming, showed eye but also loved people. Lucy looked like a big Border collie and was smart. She also had no interest in play as work but was as water-loving as Pepper. Barnabas had a Border collie tail but did not show eye. He loved people and sometimes waded but wouldn't swim. Dante didn't like tennis ball play or swimming but seemed to have a social conscience: when a dogfight started, he'd rush in and break it up.

It's possible that Dante's social conscience is part of a genetic combination and that no single gene makes a Newfie hurl itself into the surf to rescue a drowning swimmer. Ideally, the F-2s would provide pure examples of each of the traits Rine was trying to isolate. But genetics are a bit more complicated than that. Genes aren't always expressed simply as dominant or recessive traits.

Sometimes both versions of a gene are expressed. Sometimes the trait is a combination of two versions of the gene (like a red and a white flower creating a pink one). Even more confusing, a trait can be the result of more than one gene. Human skin color, for example, is affected by not one, but many distinct genes, on different chromosomes. Not to mention that the urge to save

General Motors Corporation © 1996

GM drivers are ALIKE.

Or are they?

They're as different as the fifty states they live in. And they drive a lot of different kinds of cars and trucks for a lot of different reasons. But when J.D. Power and Associates asked new vehicle drivers about the quality, sales experience, and delivery of their vehicle, the GM owners were remarkably alike in their point of view. Together, they formed the very picture of satisfaction. And, in turn, consecutive top-ranked performance has earned General Motors a J.D. Power and Associates Chairman's Award.

*General Motors is rated highest in satisfaction right from the start.**

– J.D. Power and Associates 1996 Chairman's Award

**Based on performance among corporations selling more than 500,000 vehicles annually, including General Motors Corporation, American Honda Motor Company Inc., Chrysler Corporation, Ford Motor Company, Nissan Motor Corporation USA, and Toyota Motor Sales USA Inc., in J.D. Power and Associates 1992-1996 New Vehicle Sales Satisfaction Studies;℠ measuring owner satisfaction with the sales experience, delivery and initial condition after the first 90 days of ownership.*

GM General Motors.
CHEVROLET PONTIAC OLDSMOBILE BUICK CADILLAC GMC SATURN

http://www.gm.com

Images of heroic rescues by noble Newfies were much admired in Victorian England; painter Edwin Landseer created the fad.

a drowning soul may be the result of all sorts of other traits, independently inherited.

While observing Gregor and Pepper, the F-1s and the F-2s, Rine and his colleagues were also busy in the lab. In their search, they were aided by the existence of genetic markers, the unique sequences of genetic data—canine DNA, in this case—that serve as signposts along the genome and greatly speed the search for individual genes. (Before these markers were used, it took scientists ten years and at least $25 million to identify the human gene for cystic fibrosis.) Because chromosomes are inherited intact, scientists can narrow their search for particular genes by identifying certain markers and using them as the basis for comparing the DNA of the different dogs. Once they've narrowed the search to particular areas of the genome—on particular chromosomes—it is much easier to identify the genes in question, or at least to identify genetic markers that come very close to the location of the actual genes.

Obviously, computers have become indispensable in the mapping of genes. Because a gene of a certain DNA structure in one organism is likely to play the same role as a gene of a similar structure in another, scientists have created enormous data banks housing information on the thousands of known genes and their apparent functions. Rine and his colleagues are able to check DNA sequences from the dogs against those in such data banks, to help confirm or eliminate suspects.

Rine's attempt to locate and identify particular genes is guided by the 31 traits he identified earlier. Observation of behavior and physical characteristics has produced suggestive similarities between Barnabas, Summer and Lucy in their Border-collie-like markings, and Lucy and Saki in their fondness of water. Among the F-2s there are intriguing differences in "tail posture," ranging from Dixie's low-held tail (like Gregor's) to Lucy's high-flying flag (like Pepper's). The degree of eye varies a good deal in combinations that have led Rine to believe he will concentrate on that quality next.

But such work is so expensive and time consuming that the Dog Genome Initiative can seriously pursue only one gene at a time in the lab. So far Rine has concentrated mainly on hydrophilia. While observing the F-2 pups, Rine was surprised how many liked water, which suggested that the quality is genetically simple, in theory making it easier for researchers to isolate the gene that controls it.

But only two of the F-2 pups, Lucy and Saki, exhibited the really strong love for water shown by their grandmother, the purebred Newfoundland Pepper. Once the scientists identified this behavior in Lucy and Saki, they could begin the immensely complex and time-consuming part of the project. They would run computer-directed tests on minute bits of DNA extracted from all the dogs, seeking a single sequence of nucleotides that only Lucy, Saki and Pepper have in common. The sequence—for hydrophilia—will be absent in Gregor and all the pups who prefer to stay on land. Thus far, they have searched more than a hundred gene sequences.

Sometimes Rine and his colleagues find themselves intrigued by shared traits they hadn't thought of when they started. Rine found, for instance, that Gregor likes to "sing along" to twangy country music. So does F-1 Minsky, who will sing to struck chords, while F-2 Barnabas (son of Minsky) prefers to sing along when Rine's children practice piano. None of the other dogs so far

IMAGINE EVERY SHADE OF BLUE UNVEILING BEFORE YOU, SPILLING ACROSS A LIMITLESS SKY. HERE, THE HORIZON IS FILLED WITH POSSIBILITY. YOU CAN SPEND ALL DAY ON SHORES OF PINK AND WHITE SAND. LOSE YOURSELF IN A FLOWER FOREST. PLAY A ROUND ON TROPICAL GREENS. HERE, THERE ARE A THOUSAND BEAUTIFUL WAYS YOUR DAY CAN UNFOLD. FOR RESERVATIONS, PLEASE CALL YOUR TRAVEL AGENT OR 1•888•BARBADOS.

BARBADOS

JUST BEYOND YOUR IMAGINATION

"Singing along" has emerged as an identifiable trait: Minsky howls it up, accompanied on keyboard by owner.

show the slightest musical interest. He believes that the dogs are actually moved by the music and suspects the existence of a musical gene; he hopes the DNA of the three dogs will have a gene that no other dog has. "Would that musical gene be the same for human beings?" I asked. "Yes," he said, "it would be chemically very similar, but of course it may not work in the same way or in the same genetic combinations as with humans."

Since many human genes are virtually identical to dog genes, after a gene is located on the DNA of one of Rine's F-2s, it would be a fairly straightforward affair to locate a corresponding human gene. But that isn't the end of the matter. If and when both genes are found, we may be able to predict that all dogs with the music gene will howl but not that the presence of the music gene in a human genome will produce another Vladimir Horowitz or Elvis Presley.

Very little is known about how genes regulate themselves. Rine says cautiously, "It is wonderful to think that we may one day be able to identify genes that contribute to the differences in courage in dogs, the genes that contribute to the differences in loyalty in dogs. The extent that those genes have roles in human biology will be something the future will have to tell us." He adds, "I make no predictions how a particular gene may function. I do expect that when we locate a gene on the dog genome, we'll find a similar gene at the same locus on the human genome."

Rine expects to go on working for years with the immense amount of behavioral and genetic material he is accumulating. "Scientists rarely finish projects," he says, "but there are benchmarks when you feel you can declare partial victory." The first major phase of the Dog Genome Initiative will end sometime in 1997 when Rine and his colleagues complete a high-resolution genetic map of dog DNA. Meantime, they will be trying to match Lucy, Saki and Pepper's love of water with corresponding genetic markers for that trait. Other traits will be matched in turn.

Although it may be some time before the members of the Dog Genome Initiative can point to a particular bit of DNA and say, "There is the gene that controls Border collie eye," they have already made discoveries of use to the practical dog breeder.

Until I saw the F-2s at play, I had always assumed that the Border collie's herding abilities were caused by a single mutation. Probably many of the Border collie's useful traits derive from wolf-predator behaviors. The Border collie runs out, cuts off and glares at sheep much as his wolf ancestors must have done with prey. That said, it is harder to see how we got to the present-day dog, created sometime before 1500 in rural Britain. I had presumed that one day Farmer Jones looked out and said, "Look at that strange Shep: he crouches and glowers at his sheep and they do as he bids them. I think I'll breed a bitch to Old Shep." But if that scenario were correct, then those traits that make up the Border collie's herding ability—crouching, eye, keenness to work, intelligence—would be close together on Gregor's genome, perhaps even a single gene.

And that is not the case. It is clear from Rine's F-2s that the herding traits are inherited separately and must have been selected for separately. There was no Old Shep. As Rine says, each genome is a history of the animal and this history is extraordinary. How could those breeders—illiterate shepherds most of them—have managed to create, bit by bit, such a sophisticated tool?

Until now dog breeders have worked by a sort of sophisticated intuition. Rine anticipates a time, not too far off, when dog breeding will become much more scientific. "Our markers are just like signs on an interstate highway," he says. "Now we know the highway and we know where to turn off to look for this or that."

More important to the average dog owner is the promise of identifying genetic diseases in their dogs. Some experts estimate that as many as 25 percent of

America's purebred dogs suffer from serious genetic ills. Dysplasia, canine epilepsy, progressive retinal atrophy, "rage" syndrome—there are altogether too many crippled dogs, blind dogs and vicious dogs, each one a human heartbreak and a dog tragedy. Within ten years, Jasper Rine estimates, a simple blood test done at the vet's may be forwarded to DNA labs where technicians will be able to identify potential genetic problems before the dogs are bred. They've already made progress. In collaboration with geneticists at Cornell University, Rine's team has located markers linked to a gene for a canine eye disease. Rine also anticipates scientific pay dirt in molecular medicine when scientists are able to compare and contrast genes shared by man and dog.

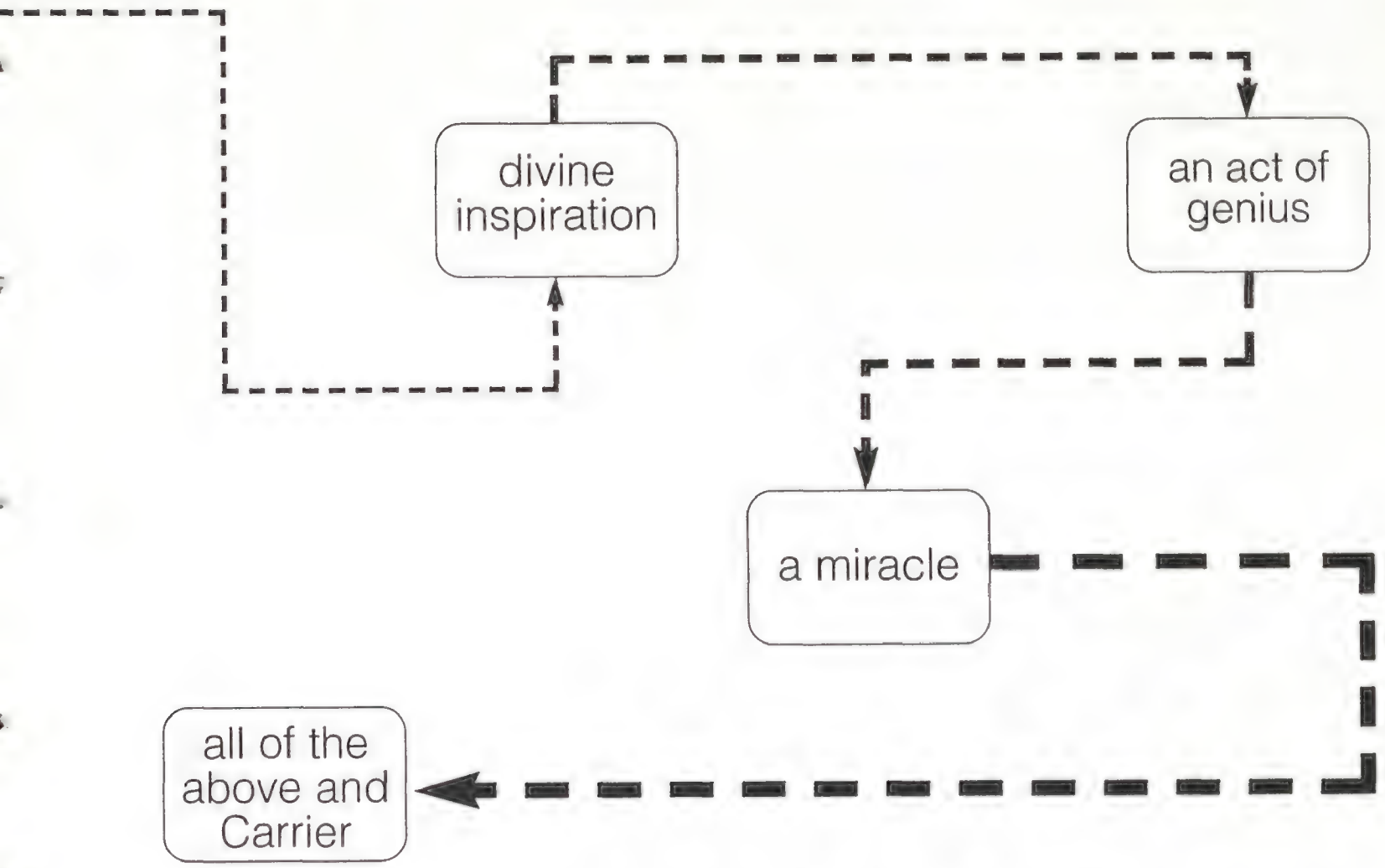
Though Rine expects to keep refining the genetic map, studying Gregor and Pepper's offspring and the endless matching of behaviors against blood samples, maybe for another decade, there will probably not be any F-3 generation (as part of the Dog Genome Initiative, anyway). The F-2s provide more sharply focused genetic and behavior parallels for study. Besides, the goal here is not to create new breeds. "In fact," says Rine, "I can see a day when hybrids between existing breeds will become the most desirable dogs to have as pets—because their behavior and morphology is as predictable as established breeds, and they are largely free of the genetic medical problems which plague so many breeds."

Meanwhile Rine's extended canine family lives on happily in something very like dog paradise, loved by owners, regularly heading out for group picnics, family reunions and play/study sessions in California parks. None of the study limits their lives. "I'm happy to say the dogs are all affectionate, intelligent, wonderful companions," Rine notes, "and genetically fascinating." Take Bill and Lucille Cain's F-2 pup, Dixie, for instance. Although she holds her tail like a Border collie, she doesn't crouch. She doesn't show eye but is a tiger for work. She is very friendly to people and has webbed feet. Her owners view Dixie, perhaps unscientifically, as a dog of significant accomplishment. She can sit on command, comes when called by name. Dixie can undecorate a Christmas tree (and destroy the ornaments), retrieve objects, lie down when asked and, without any assistance from humans, shell and eat pistachio nuts.

Dixie, daughter of Minsky and Geno, demonstrates a mix of behaviors characteristic of the third, or F2, generation: like her Newfie forebears, she loves a good swim; like a Border collie, she works a stick to shore.

Otis Carrier Pratt & Whitney Sikorsky

What does it take to preserve a 450-year-old treasure?



Four and a half centuries of smoke from votive candles combined with modern air pollution to mask the glory of the Sistine Chapel ceiling.

It took an inspired clergy, the genius of patient artisans, and the miracle of chemistry to restore its original vibrant beauty.

And to keep it that way?

A specially designed climate control system for comfortable temperatures and clean air from this time forth.

And the people chosen to provide all this?

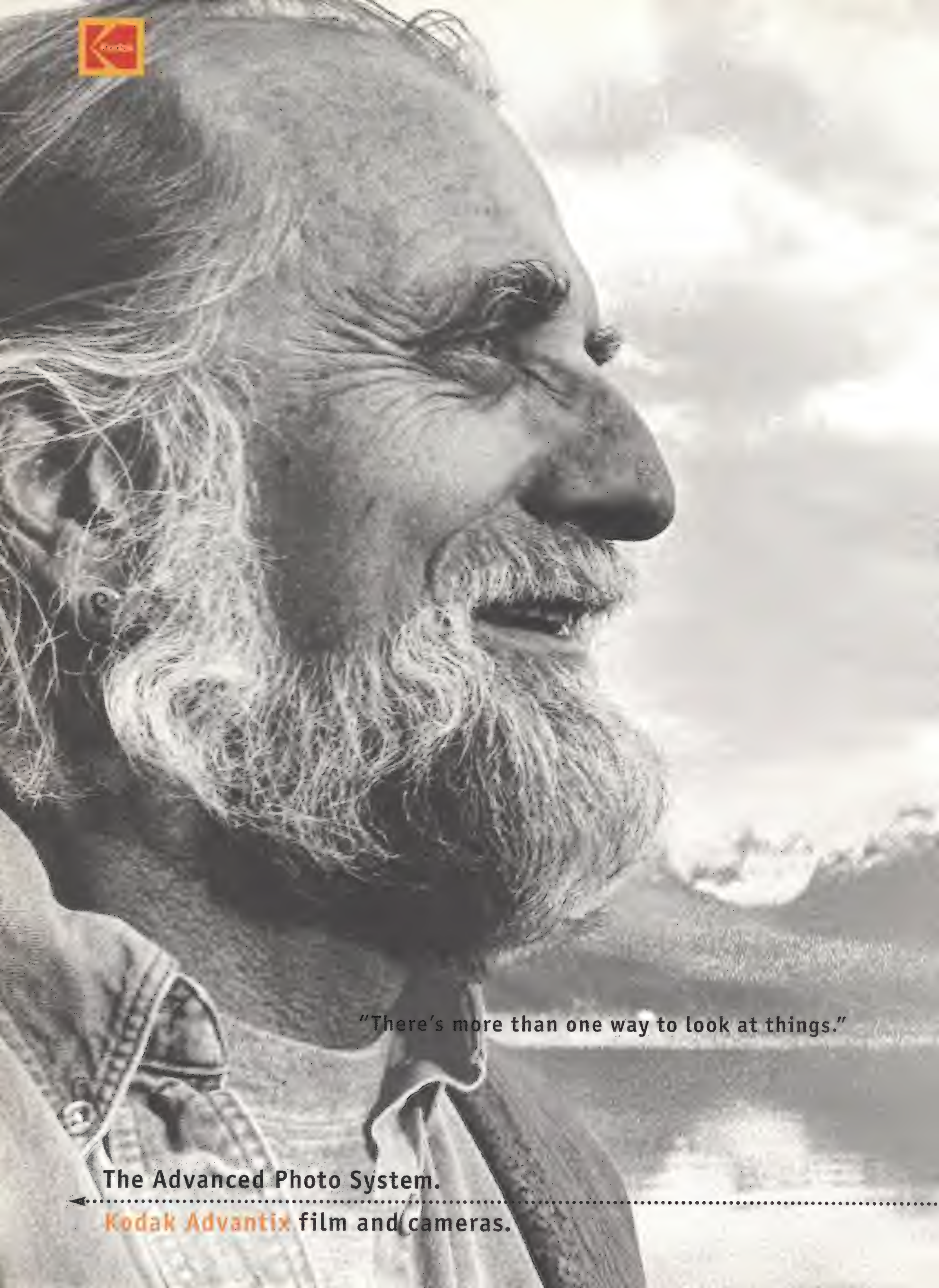
Carrier.

Perhaps because Carrier is to air conditioning what Otis is to elevators and Sikorsky is to helicopters: The creator of the industry.

Be there first.

Hamilton Standard UT Automotive

United Technologies


"There's more than one way to look at things."
The Advanced Photo System.
Kodak Advantix film and cameras.

ADVANCED PHOTO SYSTEM™

Introducing the Kodak Advantix system.

Classic

HDTV

A new kind of film for a new kind of camera

Panoramic

© EASTMAN KODAK COMPANY, 1996.

with a choice of three framing options for every single shot.

Take pictures. Further.

For more information, call 1-800-242-2424. Or find us on the Internet at http://www.kodak.com

HIGHLAND PARK
MON TUES 730am 10pm
WED THUR 730am 10pm
FRI 730am 12 midnight
SAT 8am 12 midnight
SUN 8am 10pm

Photographs by William Bennett Seitz

Our old reliables, still rolling on across the years

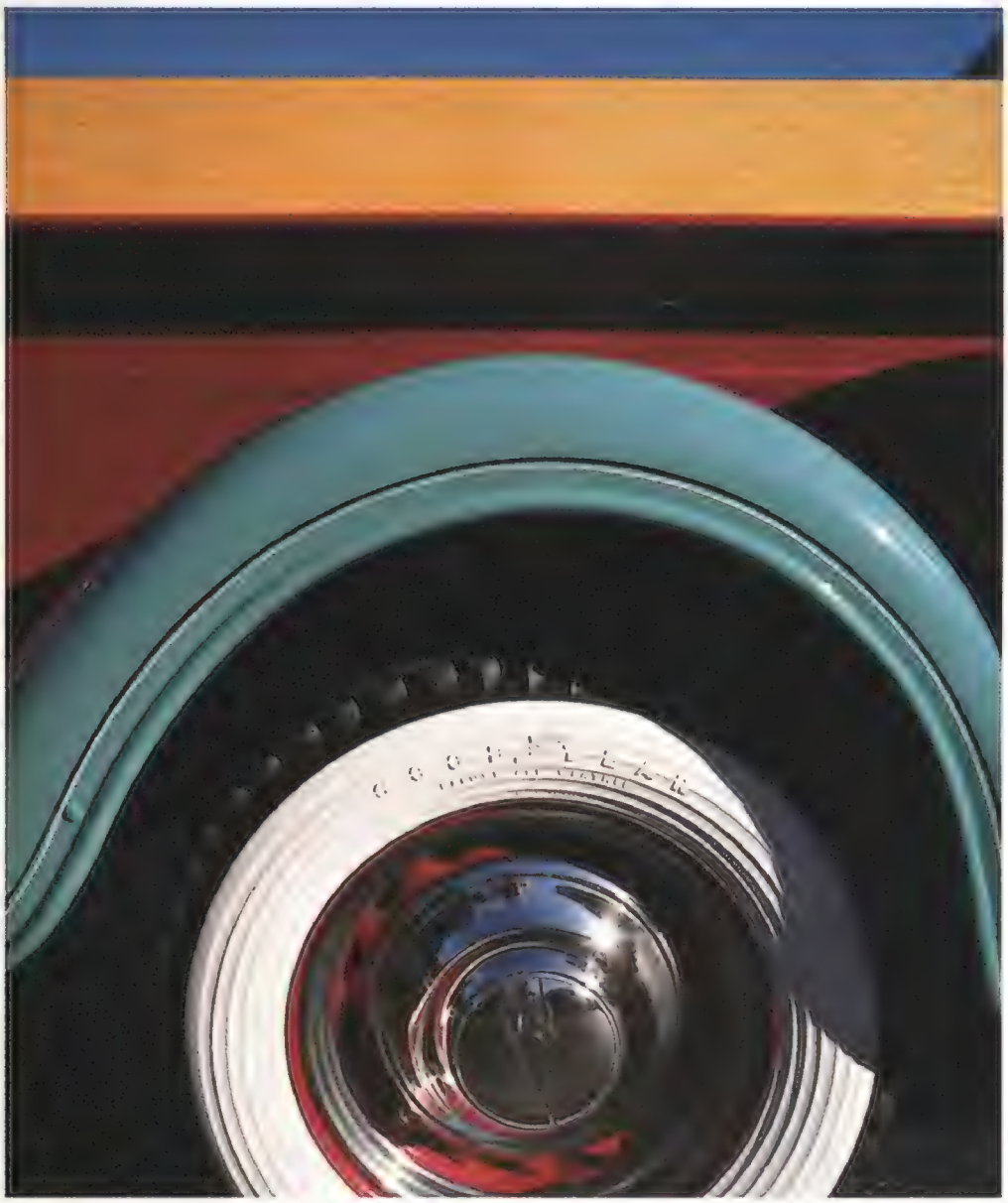
Whether they are yet hauling hay and Little Leaguers, or have been retired from duty, vintage pickups have won America's heart

"For years," says photographer William Bennett Seitz, "I loved the way old trucks looked: they're actually pieces of classic American sculpture—on wheels." In 1995, Seitz took his affection for these vehicles, as sturdy as they are handsome, on the road. Over the course of a year, he crisscrossed the country, traveling interstates and gravel lanes, in search of vintage Dodges, Reos, Chevies, and Studebakers, like the gleaming 1946 M5 at left. Meanwhile, his collaborator, writer Harry Moses, followed up on Seitz's discoveries, recording the far-flung owners' stories of how they acquired and restored their most precious possession.

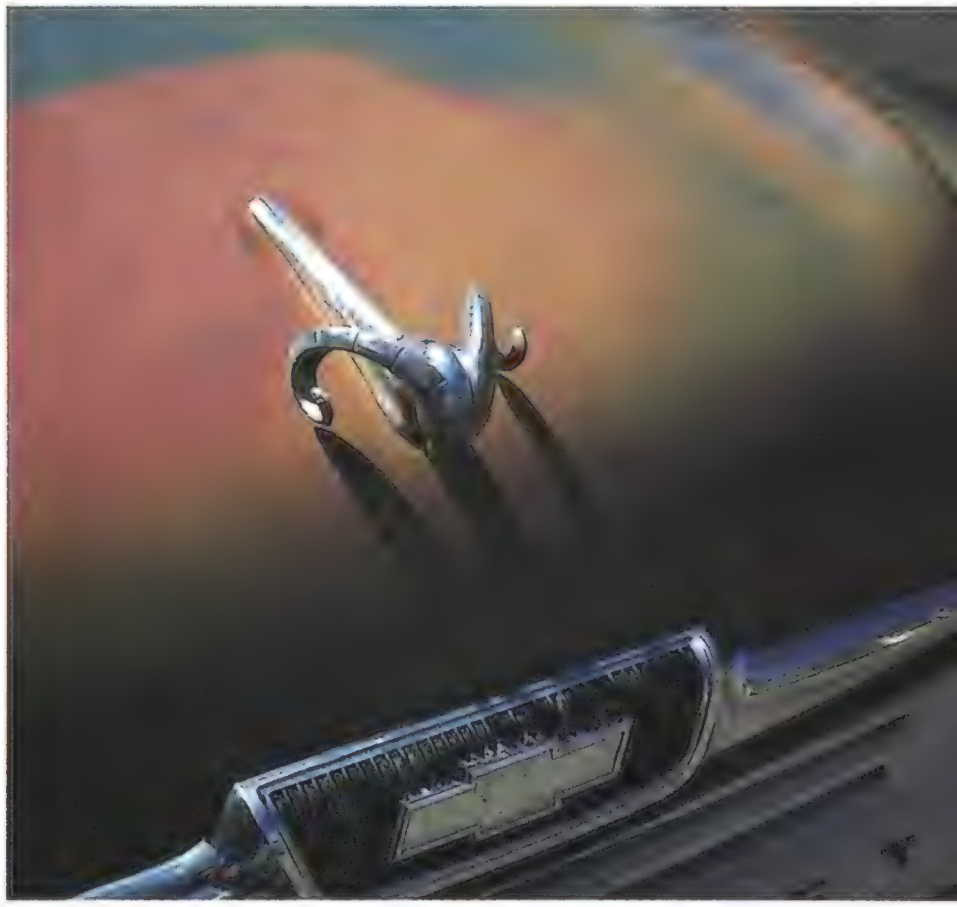
The result is *Pickups: Classic American Trucks,* an homage to these icons of our back roads, published this month by Random House. Pickup trucks have emerged, in this country, as a wildly popular mode of transport; last year we snapped up 2.7 million new ones. Seitz and Moses, however, wanted to focus on yesteryear's beauties, the trusty models built between 1913 and 1960, before standardized design eclipsed distinctive lines and authentic personality.

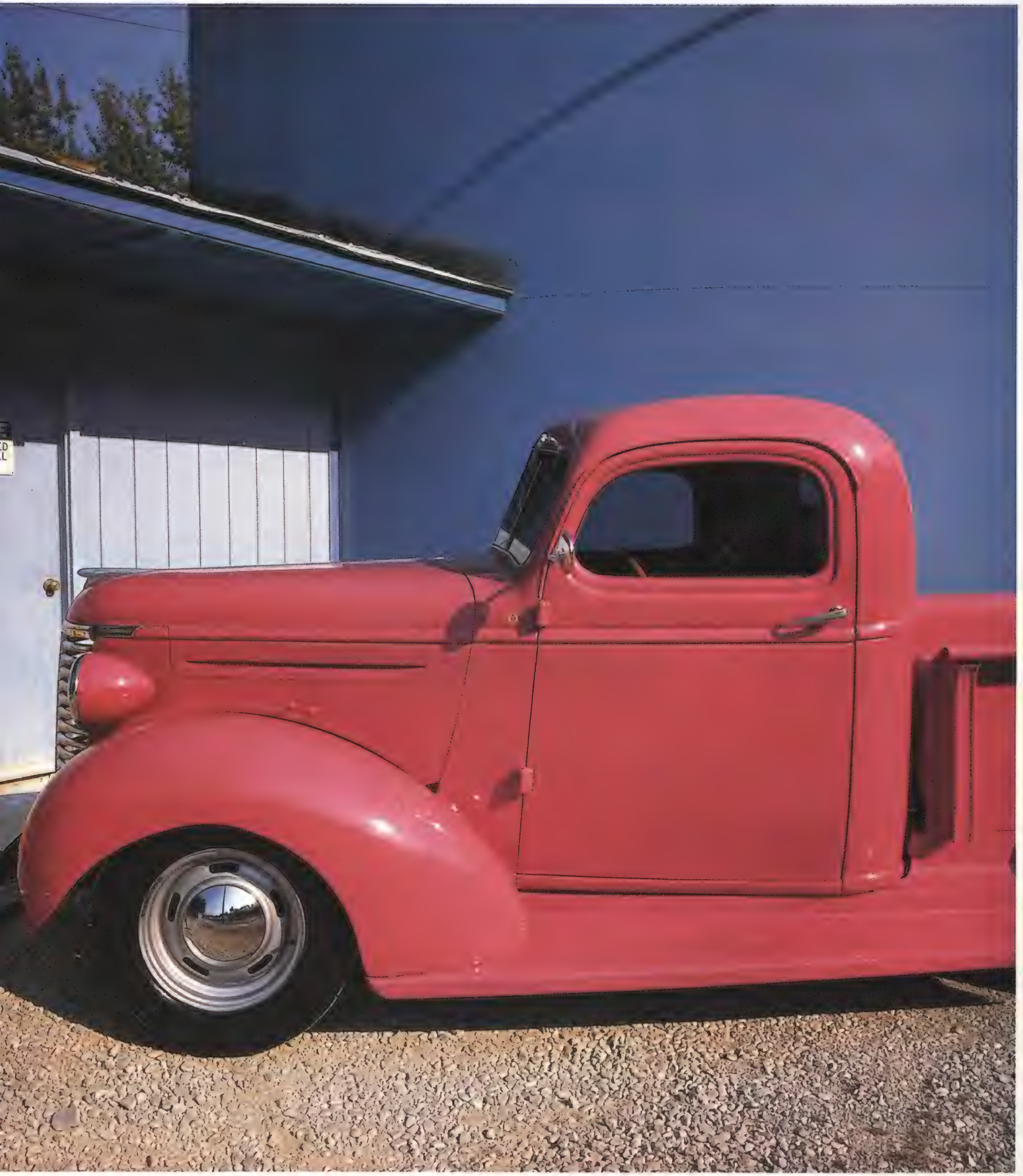
Their owners constitute a motley corps of aficionados—innkeepers and actors, doctors and plumbers and musicians. Some drive these pickups every day; others ease their lovingly restored trucks into traffic on rare occasions. But all of them share one experience. "Whenever they take their pickups out for a spin," writes Moses, "people stop and tell them that truck of theirs is the most beautiful thing they ever laid eyes on."

Kathleen Burke



Artful touches grace pre-1960s pickups, both in their original designs and in creative updates, as the details (clockwise from top left) attest: arced fender, 1936 Ford; sleek steering wheel, 1947 Hudson; Dodge hood ornament, 1950s Chevy; chrome fittings, 1949 Dodge.





On a whim, the owner of a 1939 Chevy JC painted it a dazzling pink: "It does," he admits, "catch the eye."

"Its lines were so beautiful," says the owner of a 1939 Ford 92D found in a Virginia field, "I had to rescue it."

The proud driver of this 1960 Chevy El Camino 1280 calls it "a little time machine" back to sock hop days.

In 1956, Palo Alto, California, bought the International S-120 for its city fleet; the current owner restored it.

An admirer offered to trade his new Cadillac for this 1948 Ford F-1; the owner declares he "wasn't tempted."

48PCUP
ADULT TOY FACTORY
LOST CAUSES. N.MEX.

"It was a night like too many others I had seen. Cold. Wet. Miserable. Rain was bouncing off my hood like popcorn on an unattended stove. Up ahead I caught the lights of what I hoped was my call. When my tow truck pulled alongside, she snapped her Shell Gold MasterCard® against the glass. She couldn't help being in this jam. **Cars have a way of dying unexpectedly, like relatives with unpaid bills.** But she knew how to take care of herself. That Shell Gold MasterCard from Chase provided Driver's Assurance.℠ If I changed a tire or gave her a jumpstart, or even a tow, she didn't have to pay me a dime. It was all included with the card. Plus, she could earn free gasoline and get other gold card services, too.

She was pretty smart, all right. I'd have her out of here in no time. Then she'd be off using that Shell Gold MasterCard from Chase to pay for a high old time. And I'd still be behind the wheel of this tow truck in a night that was taking longer to get through than a New Year's Day hangover."

To apply for the Shell Gold MasterCard from Chase, pick up an application at a Shell station or call toll free 1-888-931-GOLD.

Earn unlimited Shell gasoline using the Shell Gold MasterCard. Rebates automatically applied to monthly statement. See Rebate Terms and Conditions. Void where prohibited by law. $45 annual fee. Some charges, restrictions and limitations apply. See Welcome Kit for Driver's Assurance details and restrictions. This information is accurate as of September 1996, the date of printing, and is subject to change without notice. ©Chase Manhattan Bank USA, N.A. and Shell Oil Company 1996.

THE CARD FOR DRIVERS

Trappings of Americana—an eagle, the flag—wreath the idealized image of Citizen Know-Nothing; behind the zeal lay a deep xenophobia.

By Robert Wernick

The rise, and fall, of a fervid third party

In the 1850s, a burgeoning coalition of self-proclaimed nativists, the Know-Nothings, swept into office and called out for radical change

Popery threatens to "swallow up America," Anna Ella Carroll wrote in *The Great American Battle* in 1856; "springing its shuttle of death across her shores it pants to be able to water its steed in her great Mississippi." Of course, the great American public did not take her quite literally. Still, the book sold briskly, and there was no doubt that it had struck a sensitive nerve in the body politic.

For in the early 1850s a specter was haunting America. It was the specter of immigration. From 1820 to 1845 the country had been used to a steady flow of newcomers—10,000 to 100,000 a year—and took only passing notice of them, particularly since most could fend for themselves, hailed from the British Isles and practiced the same Protestant religion as the founders of the Republic. But starting in 1846, two great social upheavals in Europe—the potato famine in Ireland and pressing economic woes and unrest in Germany—had unleashed a tide of immigrants. In 1849 the rush for gold in California began adding to these numbers.

The mere sight and sound of most new arrivals was unsettling, as they poured out of steerage after a month-long ocean crossing. They were dirty, disheveled and had little or no English (in rural Ireland before the famine, Gaelic was still the spoken tongue). A majority were Roman Catholics owing allegiance to a foreign potentate, the Pope, who to Americans generally was a symbol of oppression. Clearly Catholic immigrants lurked at the heart of a vast plot against the United States, as Samuel F. B. Morse, inventor of the telegraph, asserted in another widely read title of the day, *Foreign Conspiracy Against the United States.*

The older inhabitants, later known as WASPs, but at the time proud to be called "Native Americans," were bound to be outraged. And there were more-down-to-earth dangers. From 1845 through 1854 some 2.9 million immigrants, including 1.2 million Irish and more than a million Germans, streamed into seaboard cities like Boston and New York. (In the 1840s, Bos-

The specter of disease-ridden hordes arriving from overseas haunted 19th-century America. Fears that millions of newcomers would bring ruin fueled anti-immigrant sentiment.

ton's population was only about 100,000; New York's—then not including Brooklyn—was about 500,000.) The arrival of throngs of poverty-stricken and often disease-ridden strangers brought up in alien ways in alien lands strained to the breaking point the at-best rudimentary social services of the young Republic. There were not enough police to lock up the drunken brawlers in the streets. There were hardly any doctors and almost no public health system to control, let alone quarantine, the epidemics of infectious diseases that thrived in the slums where most immigrants initially lived.

In this period, cholera, bred from filthy conditions (most city streets depended a good deal on rooting hogs, and even rats, for garbage disposal) killed thousands of immigrants in New York and elsewhere, in part because doctors mostly thought it was caused by breathing miasmal air. A single statistic was enough to frighten anyone: in Massachusetts, where they already numbered one-fifth of the population, immigrants constituted about half the inmates filling the prisons, poorhouses and state asylums. From this fear, what would come to be called the nativist movement was born.

Even before the largest wave of immigrants came, there were signs of trouble. As early as 1834, a mob burned a Catholic convent outside Boston. The Broad Street Riot, which shook that city three years later, was started when a fire company, returning from putting out a blaze, ran into an Irish funeral procession. Some 15,000 rioters were involved in the melee, which left the Irish quarter in shambles and many injured.

By 1853, when one Gaetano Bedini, a papal emissary, landed in New York to adjudicate disputes between Catholic congregations and the Catholic clergy in a number of cities, vehement protest ensued. Anti-Catholic demonstrations broke out in Pittsburgh, Cincinnati, and Wheeling, West Virginia. Bedini was hanged in effigy in Baltimore, and he found it prudent to slip

An anti-Catholic mob of so-called Native Americans went on a rampage in Philadelphia in 1844; the state militia had to be called in to restore order.

in the dead of night aboard a ship bound for Europe.

The anti-immigrant fever swiftly worked its way into politics. Nativists began to write pamphlets and manifestos, to form groups, to run for public office. They got very little attention at first. America had a functioning two-party system at the local and national levels. Whigs and Democrats contested elections, exchanging power with each other every few years. Every so often an outlandish single-issue third party would spring up, like the Antimasonic Party in the 1820s, and shortly die in general indifference. Nativists seemed likely to do the same.

But then something happened that none of the political experts foresaw or understood. Nativist sentiment began to find a structure and, over time, a mass appeal. In about 1850, the secret Order of the Star Spangled Banner was formed by New Yorker Charles Allen. In the first two years, the organization attracted only 43 members. Even after it was taken over by the Order of United Americans in 1853 and began establishing a network of lodges throughout the states of the Union, none of the prominent politicians or molders of public opinion took it seriously.

But soon these secret lodges began to spread like wildfire over the land. By early 1855, there were 960 of them in New York State alone, each one firmly anchored in a local community or ward. Local lodges elected delegates to city, county and state councils, and these in turn sent seven men apiece to a Grand National Council. In less than two years membership may have soared to well over a million nationwide.

Though German and Irish Protestant immigrants supported the party, only native-born male citizens of the Protestant faith, born of Protestant parents, reared under Protestant influence and not united in marriage with a Roman Catholic could actually join a lodge. There were elaborate rituals—oaths, grips, passwords. New members took an oath never to divulge to outsiders what went on inside. An old tradition, which may or may not be correct, holds that members were instructed to reply to any prying questions by saying "I do not know," or "I know nothing." In any event, outsiders took to lampooning them as "Know-Nothings." The name stuck; it is what they are known as in the history books to this very day.

Almost no records of what went on in the Know-Nothing lodges have survived. Perhaps the members were preternaturally discreet. Or perhaps the Know-Nothings simply had little to say, outside of denouncing Paddy and the Pope and proclaiming it was time to elect honest men for a change and kick the rascals out. They also championed temperance and were identified with antislavery.

In an ordinary election year, this would not add up to a successful electoral program. But 1854—when the Know-Nothings formed what they called the American Party and put up several hundred candidates for state and national office, from Rhode Island to California—was no ordinary year.

From the safe vantage of the future, the America of the mid-19th century looks like a vibrant and optimistic land. But voters living in 1854 felt a powerful sense of approaching disaster. There was an economic recession that year, as there had been in 1837. There was runaway inflation partly caused by an influx of gold from California, as well as rampant crime in the streets of the cities. The newfangled railroads and cotton mills were rending the social fabric of the country. National politics, once directed by wise Founding Fathers, seemed to be in the hands of confused mediocrities. Local politics were dominated by corrupt demagogues. One of the things nativists resented most was that the Irish, organized by local politicians, soon began voting in blocs.

To add to the sense of impending chaos, the two-party system was under siege. In the Presidential election of 1852 the Whigs had been so badly beaten that within a few years they ceased to exist as a national party. The Democrats were still a majority, but they, like the ill-fated Whigs, were split between Northern and Southern wings over the issue of allowing slavery to expand into the new Western territories.

Into this void stepped the Know-Nothings, like a collection of Ross Perots, claiming at least to offer the possibility of change. In their capacious tent there was room for all the dissatisfied groups across the country. These

Frequent contributor Robert Wernick has written recently on current archaeological excavation on Malta.

DESTINATIONS ON TAPE™

VIDEO READER SERVICE

DESTINATIONS ON TAPE brings the most exciting destinations, resorts, tours and adventures right into your living room. These professionally produced video brochures offer a "visual tour" to help you plan and preview your next journey.

All the video selections you choose will be custom-duplicated onto a single high-quality, reusable (recyclable) videocassette that's yours to keep. The video selections are only $6.00 each plus shipping and handling.

Bonus Offer: Buy 4 or more, get an additional video **free!***

ASIA/PACIFIC

606 Australian Tourist Commission
"Australia: Discover It!" – Glimpse the Australian experience: the Outback, the Great Barrier Reef, the cities, the mountains, the beaches. Get to know the Aussies!

657 China National Tourist Office
"China" – The world's oldest civilization emerging into modern times. Natural beauty to enjoy and friendly people.

666 Hong Kong Tourist Association
"Behind the Mask" – As exciting as Hong Kong is, half the fun is how you get around to see it. Sail leisurely on a Chinese junk. Ride a double-decker bus. Or toast the night from a polished old tram.

981 India Government Tourist Office
"India. Everything you'd never expect" – Legendary adventures and unexpected pleasures. General tourist information about major sites in India.

924 Malaysia Tourism Board
"Fascinating Malaysia" – Malaysia is a tropical adventure land of lush vegetation, luxurious beach resorts, spectacular diving and unique cultural attractions. It is also a bustling economic center with historic cities, shopping and internationally renowned tourist facilities.

613 New Zealand Tourism Board
"New Zealand on My Mind" – Described as a world in miniature, New Zealand offers myriad sights and adventures… trek among magical rain forests, sail around subtropical islands, sense the power and mystique.

925 Singapore Tourist Board
"Through Singaporean Eyes" – Take a glimpse at life in Singapore, an exciting potpourri of colors, cultures and cuisine. This unique video offers a personal insight into the very soul of this charming little city full of delightful contrasts and nuances.

686 Tahiti Tourism Board
"Tahiti and Her Islands" – The balmy trade winds of Tahiti and her islands breathe romance. Stroll past towering palms on secluded, sun-drenched beaches, and dance away the nights under a million tropical stars.

803 Thailand Tourism Authority
"Exotic Thailand" – Discover the Treasures of a Kingdom. Come, feel the warmth of our hospitality, enjoy the richness of our culture, spend a carefree holiday in tropical paradise and relax in the luxury of our legendary hotels.

ATLANTIC/CARIBBEAN

565 Barbados Tourism Authority
"Take A Closer Look" – A rare blend of British sophistication and Caribbean ease. Though just 21 miles long and 14 miles wide, Barbados offers an array of activities, magnificent beaches and breathtaking scenery.

528 Bermuda Dept. of Tourism
"Bermuda: In Your Life" – The Beatles' classic *"In My Life"* sets the stage for a video visit to one of the loveliest islands in the world. Civilized and sophisticated, this tiny country has a story worth singing about. Hosted by M*A*S*H star, David Ogden Stiers.

976 Cayman Islands
"Those Who Know us Love us" – Nestled in the tranquil Western Caribbean lies the warm and friendly island trio – Grand Cayman, Cayman Brac and Little Cayman. Spectacular beaches, world-class diving, fishing, golf, hiking and bird watching.

534 Puerto Rico Tourism
"Discover the Continent of Puerto Rico" – No other island in the Caribbean offers such a diversity of experiences and colorful history. Puerto Rico is a paradise for divers and water lovers.

582 St. Kitts & Nevis Tourist Board
"The Secret of the Caribbean" – This two-island nation provides an ideal climate, tropical rain forests and golden sand beaches.

663 St. Lucia Tourist Board
"Images of St. Lucia" – Mountainous and lush, St. Lucia offers a wide range of things to do amidst great tropical beauty. The warm St. Lucian people will welcome you, and the island's finest resorts will spoil you.

584 United States Virgin Islands Tourism
"Follow a Rainbow" – An entirely new concept in travel films, with the cultural aspects of a destination as counterpoint to the sun, sand and sea of a Caribbean vacation.

CRUISES

624 Celebrity Cruises
Ten and eleven-night – Ultimate Caribbean cruises aboard the Meridian. Enjoy the islands and experience our award-winning cuisine and world-class nightlife.

626 Clipper Adventure Cruises
"In the Spirit of Adventure" – Clipper's mission to use small maneuverable ships to take curious travelers to places of natural beauty – is captured in this award-winning documentary.

656 Ivaran Lines
"The M.S. Americana" – The world's most luxurious passenger/freighter, with a reputation for handling the things we transport with care. For the adventurers who come along for the ride, we go even further.

768 Norwegian Cruise Line
"Dreamward/Windward" – NCL proudly presents two brand-new sister ships, the Dreamward and the Windward, sailing the most enticing ports of call in the Caribbean and Bermuda.

958 Royal Caribbean Cruise Line
"Southern Caribbean" – Voyage to Aruba and Antigua aboard our magnificent vessels, including the new GRANDEUR and SPLENDOUR OF THE SEAS, joining us in December.

634 Sun Line Cruises
We'll make you feel at home cruising the Amazon, Panama Canal, Mayan Equinox. Friendly staff, top lecturers, luxury ship. See it all on our informative video cruise.

EUROPE/AFRICA

607 Austrian National Tourist Office
"Austria" – This lively video presents Vienna and Salzburg and much of the countryside in between, with a focus on practical advice and money-saving travel tips.

608 Belgian Tourist Office
"Belgium in Fourteen Minutes" – Come and enjoy Belgium. Experience the fine cuisine and don't forget to bring back our famous chocolates.

932 British Airways – Africa
"Affordable Africa" – Explore game-rich plains in Kenya and Tanzania… tour South Africa's exotic cities, enjoy game-viewing in Zimbabwe and the breathtaking Victoria Falls... and go gorilla-tracking in Uganda's mountain forests.

736 Danish Tourist Board
"Denmark: A Danish Symphony" – Small is beautiful. Denmark is both. But it makes a big impression and welcomes you in a big way.

970 Egyptian Tourist Office
"Welcome to Egypt" – Discover the wonders of ancient and modern Egypt. Visit Cairo. Explore Giza, home of the Great Pyramids and the mysterious Sphynx. Journey to Alexandria. Cruise the Nile. Welcome to Egypt.

926 Finnish Tourist Board
"Snow Fantasy: Finland" – Witness the adventure of Finland's six-month winter wonderland and the endless activities for which the country is famous: downhill and cross-country skiing, reindeer and dog-sled safaris, luxurious dining, and the famous Northern lights.

611 Irish Tourist Board
"The Emerald Isle" – Discover the scenic splendor of the magnificent Western Seaboard and the lively cities and towns. Sample the lifestyle of this enchanted European island.

527 KD River Cruises Of Europe
"Romance of the Rhine" – Cruise the Rhine, where KD, the oldest passenger line in Europe, has been operating for more than one hundred sixty-five years.

993 Malta Tourism
"Unforgettable Malta" – English-speaking, hospitable, safe… This Mediterranean jewel offers 6,000 years of civilization, temples, splendid churches, palaces and fortifications. Its climate makes it ideal year-round.

617 Portuguese National Tourist Office
"An Invitation to Portugal" – Discover a land of spectacular beauty, fascinating culture and warm hospitality... Portugal. Fly in luxury and comfort to this land of inspiration.

597 Rail Europe
"Europe By Train" – This video guide teaches the ins and outs of traveling the 100,000-mile European rail system, detailing types of trains, accommodations and rail passes used to simplify travel and save money.

651 Swiss National Tourist Office.
"Switzerland – Its Art and Culture" – Switzerland beyond its magnificent scenery. This video introduces the viewer to the country's riches, museums, art, restaurants and architecture.

938 Turkey Tourist Office
"A Land Unique" – Located at the crossroads of Europe and Asia is a fascinating blend of East and West, ancient and modern, contemporary and exotic. Take a journey through 10,000 years of history.

619 Venice Simplon – Orient Express
"Orient Express" – Relive the golden age of travel. Superb service and complete luxury aboard the King of Trains as you travel through Europe's spectacular scenery

871 Wales Tourist Board
"The Country that Makes Britain Great" – Discover Wales, a land of ancient castles, mighty princes and wizards, rich in tradition, culture and variety. From the mountainous north, with deep chasms and narrow mountain passes, to the windswept coastline.

LATIN AMERICA

603 Brazil – Varig Brazilian Airlines
"Worlds of Brazil" – This video will whet your appetite for the destination of a lifetime. Gorgeous people, great food, fantastic music and culture.

610 Costa Rica Tourist Board
"Imagination" – Imagine trekking through rain forests, shooting down rapids, or observing fascinating wildlife. An ebullient mix of European and tropical traditions.

NORTH AMERICA

639 Newfoundland and Labrador
"A World of Difference" – Discover one of the best-kept vacation secrets in North America. The air is clean, the people are friendly and the vistas magnificent.

604 Nova Scotia
"Touring & Sightseeing in Nova Scotia" – Welcome to Canada's Ocean Playground, the land of one hundred thousand welcomes and the festival capital of Canada. Nova Scotia is a seacoast treasure of unique attractions and activities.

747 Special Expeditions
"Exploring Alaska's Coastal Wilderness" – You will experience the bold, wild beauty of Alaska's Inside Passage, including Glacier Bay. Discover the real Alaska aboard the expedition ships Sea Bird and Sea Lion.

636 Virginia Tourism Board
"Discover Virginia" – The year-round fun of Virginia's beaches, mountains, theme parks and history are highlighted in this video.

Order Toll-Free: 1-800-822-4604

To Order DESTINATIONS ON TAPE Videos by phone, credit card customers order toll-free. Or mail coupon to address below indicating which videos you'd like by writing in the order number(s) below. Each video you choose (each box filled in below) is $6, plus a one-time $4.75 postage & handling charge. (Ex. If you fill in three numbers below, that is $18, plus $4.75 for a total of $22.75. Tax is included.) Take advantage of our special BONUS OFFER: Buy 4 or more, get an additional video FREE!*

Name _____

Address _____

City _____ State _____ Zip _____

Tel. _____ ❑ Check ❑ Visa

Card No. Expires (Mo./Yr.) ____ ❑ MC ❑ Amex

Signature _____

Please make check payable to: Publisher's Video Group, Inc.

❑ Please send me the videos indicated below.

If you ordered 4 or more above, write the number of your *FREE VIDEO here: ____

Number of videos selected ____

Multiply times $6 each ____

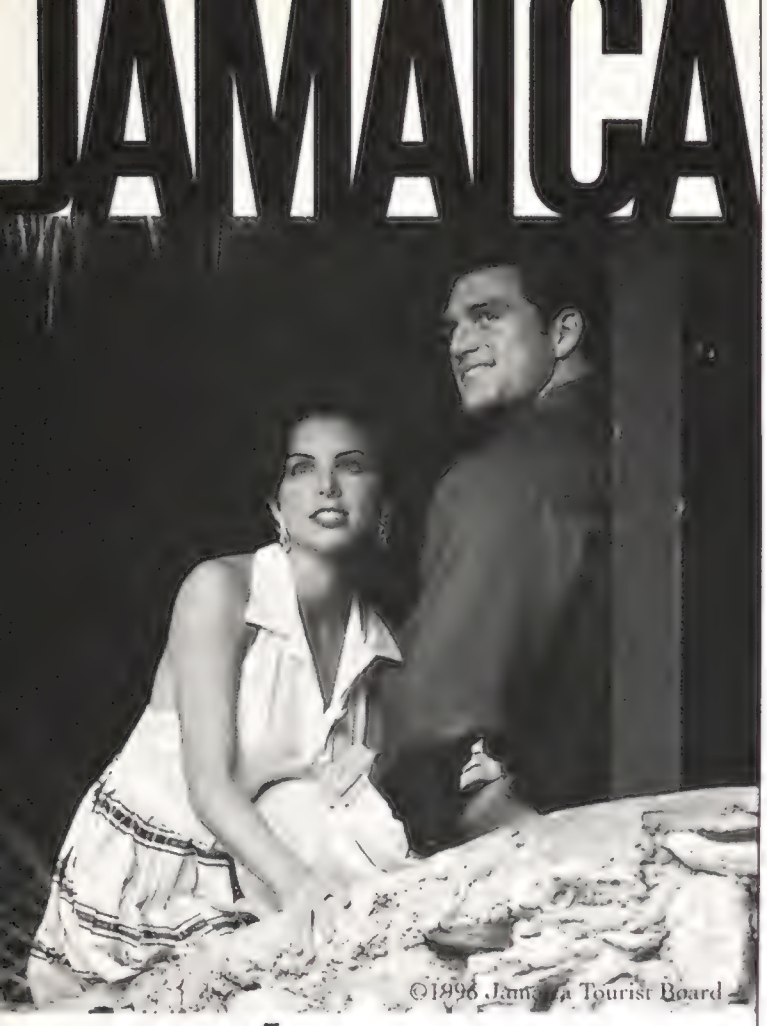
Add $4.75 for postage & hndlg **$4.75**

International orders add $15.75 ____

Total enclosed ____

Send to:
Publisher's Video Group, Inc.
P.O. Box 5293
Pittsfield, MA 01203-5293
or Fax 413-637-4343

96-11-12



Elegant Resorts

Round Hill
Hotel & Villas

Coyaba
Beach Resort & Club

Half Moon
Golf, Tennis & Beach Club

Good Hope
Great House

Plantation Inn
Hotel & Suites

Elegant Resorts Villas

Six very exclusive,
very beautiful
Jamaica resorts,
where luxury is
the keynote,
and service is the
dominant theme.
For information
and reservations, call
your travel agent or
1-800-237-3237.

groups might not respond to the wilder extremes of nativist rhetoric, but they had reason to feel uneasy about runaway immigration.

Unskilled Irish laborers willing to dig ditches for 60 cents a day were driving down wages. The abolitionists of the Free-Soil movement saw these same unskilled, uneducated immigrants taking jobs from free blacks in the North. And earlier in the year anti-slavery supporters had been outraged when Irish-immigrant contingents of the state militia had assisted in the detainment of fugitive slave Anthony Burns in Boston.

Finally, there was an important segment of the population that thought dissension over slavery was driving the country to ruin and that anything that would take people's minds off it might be a blessing.

Modern historians have sifted through the election returns of November 1854 and the subsequent year in an effort to determine which strand of opinion contributed most to the Know-Nothing cause. Whatever their final verdict, the overwhelming fact remains that in those elections the Know-Nothings made a score that, except for the dramatic rise of the Republican Party before the Civil War, no other third party in American history has ever come close to matching.

In their first organized campaign, with no charismatic national leaders, no trained orators and almost no established political machine, they elected more than a hundred Congressmen, eight governors and thousands of local officials, including the mayors of Boston, Philadelphia and Chicago. They won control of state legislatures in half a dozen states, from New Hampshire to California, and made a strong showing in a dozen more, from New York to Louisiana. Their most spectacular and most unexpected triumph came in Massachusetts, traditionally regarded as the most staid and stable of states. By 1854, however, it had become the only sizable political entity in the world where more people were working in factories than on farms. Sturdy Yankee farmers were

Know-Nothings charged immigrants with usurping elections; cartoon, c. 1850, accuses Irish and German upstarts of absconding with ballot box.

Entrepreneurs capitalized on the nativist appeal, even to sell soap.

being driven off the land by cheap grain from the prairies and herded into crime-ridden cities controlled by corrupt politicians.

The wave of dissatisfaction that swept over Massachusetts allowed the Know-Nothing candidates, most of whom had never previously run for public office, to get almost two-thirds of the statewide vote. They were elected governor, lieutenant governor, secretary of state, attorney general, mayors of many cities and towns, and accounted for all 12 of the representatives in the U.S. Congress, all 40 of the state senators and 376 of the 379 members of the state house of representatives.

To supporters of the reliable old order that had reigned in Boston for half a century it seemed like a portent of the end of the world. Rufus Choate, an eminent Boston Brahmin, would sum it up in a memorable sound bite: "Renown and grace are dead."

The General Court (Massachusetts State Legislature) that gathered in the State House in Boston the January following the election to listen to the inaugural address by the new governor, Henry Gardner, demanding the suppression of foreign languages in schools, was like none other in American history. The lawyers and professional politicians who usually made up the bulk of such bodies had been

Own a Piece of Railroad History!

Two Great American Steam Railroad Collections

Wonderful Values Just in Time For The Holidays!

The power and glory of America's railroads is captured forever in the fine steel locomotive engravings on these original stocks and bonds issued from the 1850's through the 1890's. Hidden away for decades in the official archives of the Penn Central Railroad, all are at least 60 years old and in excellent condition. Every stock or bond in the collection is hand-signed by the presidents of the railroads and individually-serial numbered. Each certificate is guaranteed authentic by R.M. Smythe and Company, America's oldest specialists in antique stocks and bonds. Suitable for framing, they enhance the beauty of any home or office and they make great corporate or holiday gifts.

Three Different Railroad Stocks or Bonds (All 1890's) - $29

A $60 value if purchased individually!

Deluxe Collection of Ten Different Railroad Stocks and Bonds (1850's - 1920's) - $99

A $200 value if purchased individually!

Special Bonus—Every Deluxe Set includes a $1000 Pine Creek Railroad bond signed by famous railroad tycoon W.K. Vanderbilt. This additional bond alone may well be worth the price of the entire set!

30-day unconditional return privilege. Packaged in museum-quality holders. Please add $4 shipping & handling. $6 2nd day. $15 overnight. All orders insured. NY residents add 8.25% sales tax.

To Order Please Call 800-622-1880 or 212-943-1880

FREE 50-Page Price List

R.M.SMYTHE

Where Historic Paper Collections of the World are Researched, Auctioned, Bought and Sold

Wanted! - We Buy Old Stocks & Bonds Autographs, Currency

ESTABLISHED 1840

26 Broadway, New York, NY 10004-1701 AMEX/VISA/MC

It may be small. But the Bose® Acoustic Wave® music system is definitely an overachiever. The unit features a compact disc player, an AM/FM radio, a handy remote control, and our patented acoustic waveguide speaker technology. And it produces a rich, natural sound quality comparable to audio systems costing thousands of dollars. We know that's hard to believe. So we're ready to prove it. Call or write now for our complimentary guide to this award-winning system. Because, like the system itself, it's only available directly from Bose.

Call today. 1-800-898-BOSE, ext. A244.

Mr./Mrs./Ms. ( ) ( )

Name (Please Print) Daytime Telephone Evening Telephone

Address

City State Zip

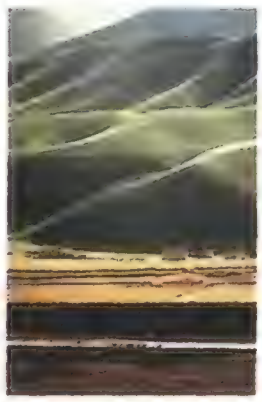
Or mail to: Bose Corporation, Dept. CDD-A244, The Mountain, Framingham, MA 01701-9168.

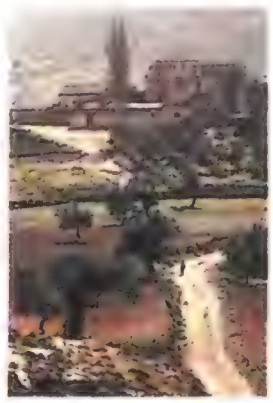
BOSE®
Better sound through research®

Luke Powell's Photographs

are now available as notecards.

Dye transfer prints by Luke Powell have been shown in nearly a hundred art museums and galleries in America and Europe, including the Sackler Gallery of the Smithsonian Institution.





Images from *The Afghan Folio* and *Paris in Winter* are joined by other scenes from Asia and the Middle East in a set of 26 notecards. These classical color landscapes are sold by the dozen or as a complete set of 26 different blank cards. They are packed in simple kraft paper boxes with fine white envelopes. All papers are recycled.

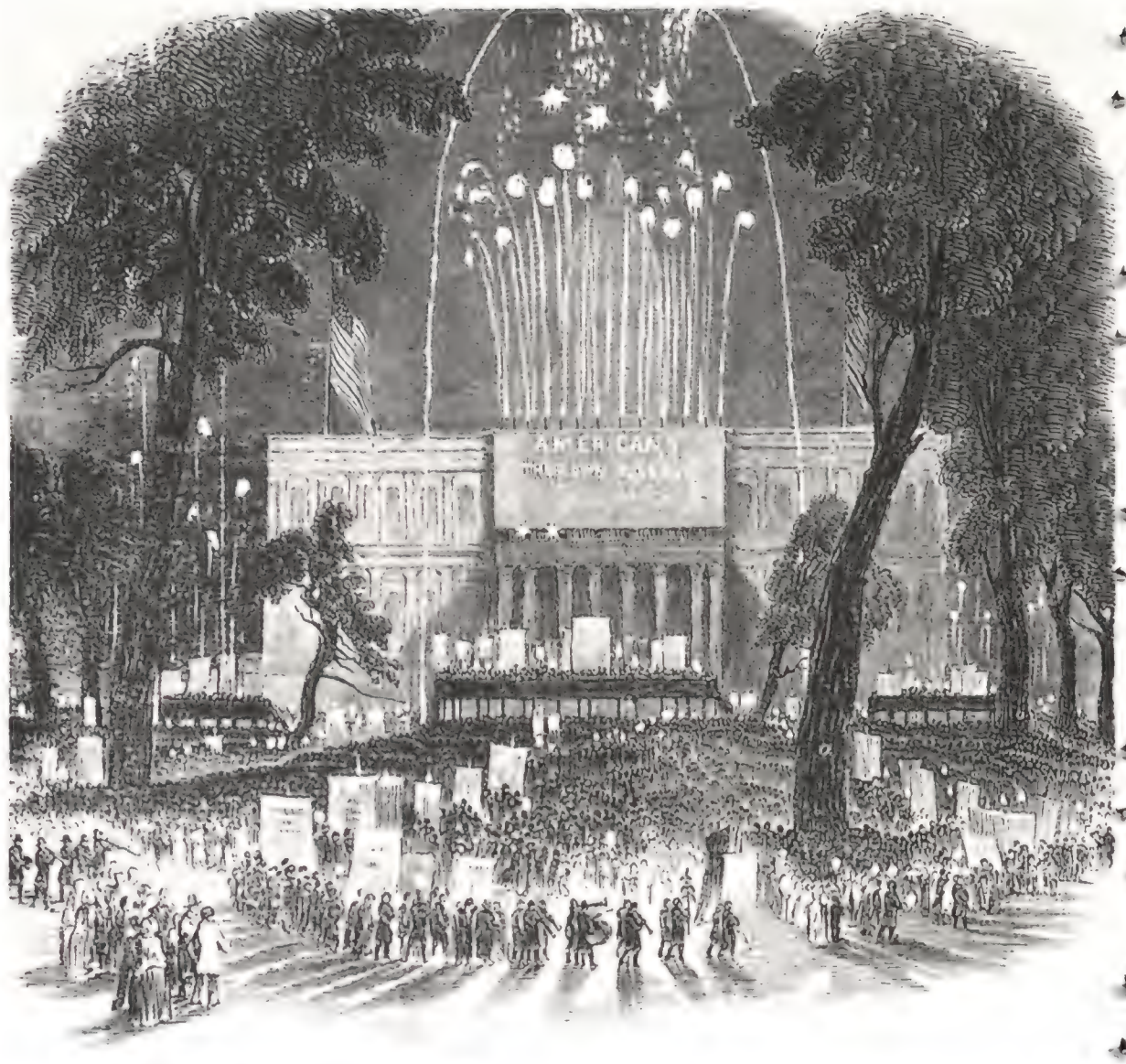
Box of 26 different cards $30
Box of 1 dozen cards (single image or mixed dozen) $18

Visa/MC or checks payable to Luke Powell - Photographs. Prices include shipping. To purchase or to request illustrated brochure contact:

Luke Powell - Photographs
2 Merchants Row
Middlebury, Vermont 05753
800 611-8550, luke@sover.net

Visit Luke Powell's exhibitions and see all of the notecard images on line:

http://www.lukepowell.com



Nativist rallies were soon drawing sizable audiences, such as this massive convocation in New York's Central Park in the mid-1850s.

swept away with a giant broom-stroke. Their seats were taken by preachers and teachers and doctors and more than a hundred ordinary workingmen, ready for political revolution.

The new officials worked with great zeal, producing for Massachusetts in one year a record-breaking number of nearly 600 laws and resolutions. Many of these worthy pieces of legislation were the kind of bills that get bogged down in committee for months or years because of partisan wrangling or lobbying by special interests. They included the first railway safety regulations (despite an intensive campaign by the railroad companies to block these measures); a law forbidding imprisonment for debt; a law allowing married women for the first time to sue, transact business, make a will and go to work without the consent of the husband; and laws authorizing the building of gas and water mains, bridges and highways. The nation's first desegregation law, providing that public schools must be open to all races, colors and religions, was also passed.

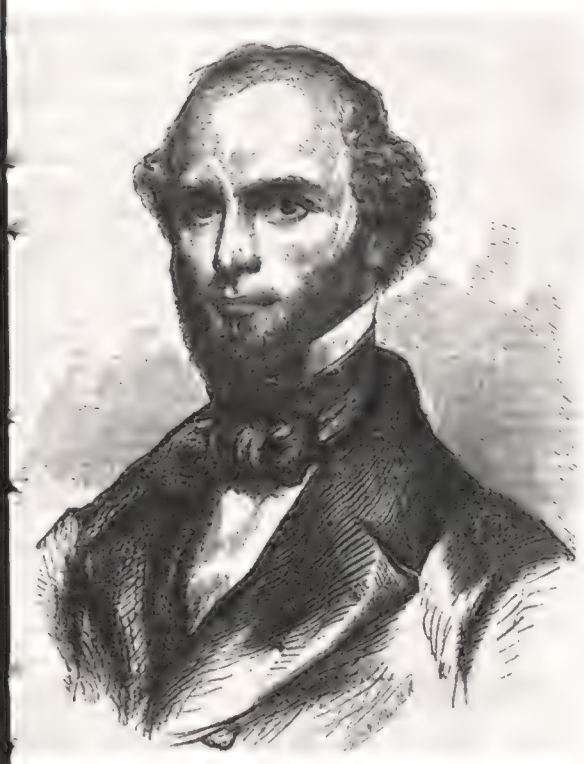
And so a conundrum arises—not completely amenable to explanation even by historians. For all their reactionary fervor, the Know-Nothings enacted some enlightened legislation. When faced with the possibility of making people's lives better, they acted, somehow, on the better parts of their natures.

When they got to immigration, which was the main, identifying issue on which they had campaigned, they discovered—it is still true today—that not much can be done on the state level. All they could do was start action on a constitutional amendment that would forbid Catholics and foreigners to hold public office, and would require a wait of 21 years before any immigrant could vote.

A major error in public relations was the creation of a Joint Special Committee on the Inspection of Nunneries and Convents, institutions that extreme nativists suspected of sequestering innocent young women against their will and of storing arms and instruments of war. A cellar-to-attic search of a boarding school in Roxbury administered by nuns produced loud squeals from the residents and bad publicity for the committee.

The public soon discovered that the Know-Nothing party in the long run had little of substance to offer. Its members relied mainly on the assurance, as stated in their electoral platform of 1855, that they were men of higher qualification, purer morals and more unselfish patriotism than the political hacks who had preceded them.

But once out on the public stage, such men soon found that to do anything, they had to offend people, make compromises, make deals. They learned that you could not pass a ten-hour workday for the Lowell cotton-mill workers because factories in other states would undersell Massachusetts factories and drive them out of business. Many Know-Nothings were opposed to slavery and wanted to stop its expansion into new states and repeal

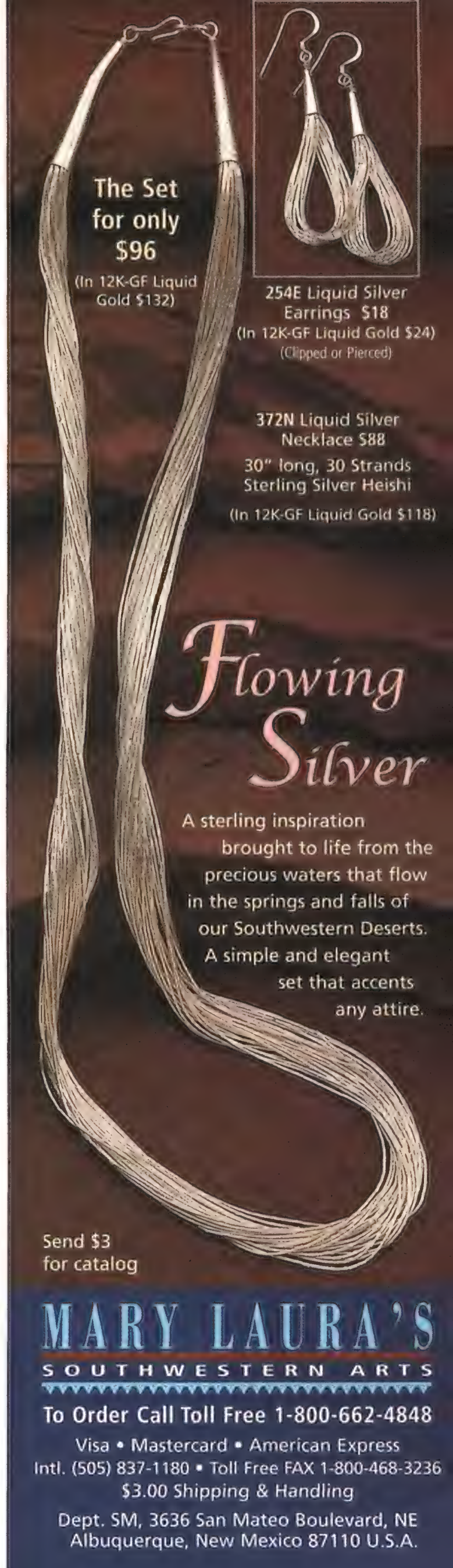


Massachusetts elected Know-Nothing Henry Gardner as governor in 1854.

Millard Fillmore ran for President as a Know-Nothing in 1856. Buchanan won the Fugitive Slave Law. But if they expected to win national elections, they would have to placate Southern legislators, who had very different opinions. If they wanted to get things done smoothly, they found, it was convenient to throw government contracts in the way of generous supporters and pass out government jobs to old cronies from back in the lodges.

In short, they began to look and sound and act like the old-fashioned political hacks. By the time the Presidential elections of 1856 had come round, the Know-Nothings turned for their candidate to an old-school politician, Millard Fillmore. He had already been President once, and signed the Compromise of 1850, which, it was hoped, would put the slavery issue on the shelf for a couple of decades at least. But here it was, six years later, and the issue was more burning than ever. Civil war loomed, blood was already being spilled in Kansas.

Fillmore had little use for nativist demagoguery, but he hoped against hope that the movement might hold the country together by providing one issue on which North and South could agree. But, by the time Fillmore was nominated, it was too late. The people


The Set for only $96
(In 12K-GF Liquid Gold $132)
254E Liquid Silver Earrings $18
(In 12K-GF Liquid Gold $24)
(Clipped or Pierced)
372N Liquid Silver Necklace $88
30" long, 30 Strands Sterling Silver Heishi
(In 12K-GF Liquid Gold $118)
Flowing Silver
A sterling inspiration brought to life from the precious waters that flow in the springs and falls of our Southwestern Deserts. A simple and elegant set that accents any attire.
Send $3 for catalog
MARY LAURA'S
SOUTHWESTERN ARTS
To Order Call Toll Free 1-800-662-4848
Visa • Mastercard • American Express
Intl. (505) 837-1180 • Toll Free FAX 1-800-468-3236
$3.00 Shipping & Handling
Dept. SM, 3636 San Mateo Boulevard, NE
Albuquerque, New Mexico 87110 U.S.A.

had had two years of watching Know-Nothings in office and were already thoroughly disillusioned with the new party. It stood revealed as nothing but a coalition of too many dissimilar groups. In Massachusetts, at least, voter turnout fell dramatically. The membership rolls of the Worcester, Massachusetts, lodge, which have somehow survived, are eloquent: of 1,120 members in 1854 only 200 were still on hand in 1855. Lawyers had begun to seep back into the General Court.

When election day came round in November 1856, Fillmore did reasonably well in states like Virginia, Kentucky and Tennessee—perhaps because the people there had special reason to fear a war that would be fought not in newspaper headlines and political speeches, but on their doorstep. But the only state he carried for the Know-Nothings was Maryland. In the nation as a whole, Fillmore got only 21 percent of the vote. (In Massachusetts he got less than 12 percent.) That was enough to ensure the election of the wishy-washy Democratic Party hack James Buchanan. It was also the virtual swan song of the Know-Nothings' American Party.

By 1860 the die was cast in America, anyway. As we now know, there was going to be a war, though when and under what circumstances was not clear at the time. Americans had more than immigration to worry about: the first modern war with its endless casualty lists (including alien as well as native-born American blood); the convulsions and contortions of Reconstruction; the great lunge across the continent to the Pacific; the new age of steam, electricity, feminism, labor unions; the income tax.

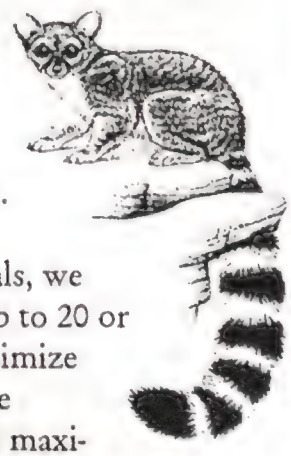
Although there was no new legislation regulating it, immigration had begun to drop off considerably by 1855. Except for campaigns against cheap Chinese labor, immigration would not be an issue again for more than half a century; by then the Irish and Germans had more or less melded into the American norm. The new tidal wave of "foreigners" came from southern and eastern Europe. They had arrived, in fact, to man the bastions of the Industrial Age. They would hope, sacrifice and labor under fearful conditions in factories and mines. And they would build a new life—just as the Know-Nothings' forebears, the first wave of immigrants to America, had done before them.

In the 19th-century, newcomers to America faced the horrors of tenement life, as portrayed in this engraving, but could achieve upward mobility.

Join a Nature Quest...

And discover the brown bears of Katmai in Alaska...honeycreepers and humpback whales in Hawaii ...coatis and quetzals in Costa Rica ...migrating raptors in Tunisia...or capybaras and macaws in the Pantanal of Brazil. Add the exhilaration of learning about the natural world to the pleasures of exploring cities, archaeological sites, and other cultures. You can quest in such wonderful places as—

Alaska
Hawaii
West Texas' Big Bend
Newfoundland
Tetons, Yellowstone & Glacier
Costa Rica
Belize
Peru
Brazil's Amazon & Pantanal
Iceland
Danube Delta & High Carpathians
Poland's Forests & Marshes
Southern Spain & Portugal
Western Anatolia & Istanbul
Etosha & Okavango Delta
The Complete Australia
The Himalayas
South India
Morocco
Tunisia
Zimbabwe



Questers travel first class and with the guidance of expert naturalists. Committed to conservation ideals, we limit membership to 20 or fewer and so minimize our impact on the environment and maximize each person's enjoyment. Our itineraries are unique, for we have 24 years of global experience. We have tours to 32 incomparable destinations in 1997. Call or write today for details.

QUESTERS
WORLDWIDE NATURE TOURS
381 Park Avenue South NY, NY 10016
(212) 251-0444 (800) 468-8668
e-mail: questers@gnn.com

Come Home.
Try Quality Care at a Ford or Lincoln-Mercury dealer for a tune-up, oil change or any repair. It's where you belong.

To help make sure you get the service you want, expect and deserve,

HAPPY?

we developed Quality Care Standards. And we live by them.

Quality Care People.
Our technicians are trained and equipped to fix your car right and have it ready on time.

Look at your car in a whole new way.

Imagine all the people, all the expertise, all the equipment of Ford Motor Company and its dealers devoted to making sure you're satisfied with your car. That's the idea behind Quality Care. All to make sure owning a Ford, Mercury or Lincoln is everything it can and should be.

Cars have changed, so has Service.
Modern electronics in today's cars demands new tools. Our high-tech equipment helps save you time and money.

The Right Moves.
When you need service, our Service Advisors are your partner. They step up, greet you and get your repair underway.

QUALITY CARE

FORD

LINCOLN

Mercury

© 1996 Ford Motor Company

Muskrat Will Be Swimming
by Cheryl Savageau,
illustrated by Robert Hynes

The Blue Monster
by Ingrid Ostheeren,
illustrated by Christa Unzner

A Penny for a Hundred
by Ethel Pochocki,
illustrated by Mary Beth Owens

Hawk Hill
by Suzie Gilbert,
illustrated by Sylvia Long

Adam Pig's Everything Fun Book
written and illustrated
by Selina Young

Smithsonian's Notable Books for Children, 1996

By Kathleen Burke

"The farmhouse," Donald Hall writes, recalling his boyhood, "was white, and its shutters were the usual deep green of New England. The paint was good, even in the poorest times. My grandmother's flowers showed themselves against the white clapboard, especially in her favorite round bed in front of the kitchen windows." From that family farmstead in New Hampshire, hard by the shadowed, looming mass of Mount Kearsarge, Hall has produced verse, essays, reviews, memoirs. His steady and prodigious output also has included some of America's most distinguished children's books, all of them rooted in the stony soil of New England.

For 21 years, since he abandoned a tenured post at the University of Michigan, Hall, one of this country's preeminent poets, has written from an upstairs study in his gabled house at Eagle Pond Farm. His maternal great-grandfather saved ferociously to buy that land; his grandparents managed to wrest a living from it for decades.

Hall spent most his childhood summers, during the late 1930s and into the mid-'40s, there in the company of his grandparents. Each June, he set out on a journey by train from New Haven to the hamlet of West Andover and the farm that, to a child who found city life uncongenial and classroom work a drudgery, was as near to paradise as one may approach. His grandfather arrived by horse-drawn buggy to retrieve him at the tiny depot: side by side, they rode the

mile that took the boy home and deep into another century.

Two volumes of Hall's memoirs, *String Too Short to be Saved* and *Life Work*, recreate this lost world. His accounts of life on a working farm, grounded in poetic genius, good humor and preternatural skills of observation, are unequaled in the annals of rural America. Take, for instance, a soaring digression on scything: "My grandfather taught me scythe mowing. . . . It is a studious sweeping crescent in which the trick is to keep the heel (where blade joins snath) close to the ground, an angle that tilts the scythe point-up, preventing it from catching in the ground. I no longer mow with a scythe—a certain recipe for lower-back muscle spasms—but remember it the way the body remembers weights and leanings: riding a bicycle, skiing, casting flies. . . ."

This province, of Moxie and pie before bedtime, marauding woodchucks in the pea patch, blueberry thickets, hay mowing, loyal horses, of crushing labor, bitter winters, pride in every workaday task, is also the terrain of many of his books for children. The most celebrated title, of course, is *The Ox-Cart Man*, winner of the annual Caldecott award for the best-illustrated children's book (the paintings are by Barbara Cooney) and a perennial favorite that has sold more

We hope you'll come visit Tennessee this year. And if you do, we hope you'll include a stop in Lynchburg.

ONE OF THE FEW THINGS older than Jack Daniel's in the state of Tennessee is the state of Tennessee.

At Jack Daniel Distillery, we're proud to celebrate Tennessee's Bicentennial this year. For it wasn't long after being granted statehood that Tennessee became known as the home of Mr. Jack Daniel and his charcoal-mellowed whiskey. (We still use his method today.) Our great state has seen many changes in the past 200 years. But if you're a whiskey drinker, we think you'll be glad Jack Daniel's isn't one of them.

SMOOTH SIPPIN' TENNESSEE WHISKEY

Tennessee Whiskey • 40-43% alcohol by volume (80-86 proof) • Distilled and Bottled by Jack Daniel Distillery, Lem Motlow, Proprietor, Route 1, Lynchburg (Pop 361), Tennessee 37352

Placed in the National Register of Historic Places by the United States Government.

Want to brush up on a foreign language?

With Audio-Forum's intermediate and advanced materials, it's easy to maintain and sharpen your foreign-language skills.

Besides intermediate and advanced audio-cassette courses – most developed for the U.S. State Department–we offer foreign-language mystery dramas, dialogs recorded in Paris, games, music, and many other helpful materials. And if you want to learn a new language, we have beginning courses for adults and for children.

We offer introductory and advanced materials in most of the world's languages: French, German, Spanish, Italian, Japanese, Mandarin, Greek, Russian, Arabic, Korean, Czech, and others.

Our 56-page *Whole World Language Catalog* offers courses in 96 languages. Call **1-888-773-2548**, fax (203) 453-9774, e-mail: 74537.550@compuserve.com, or write for your free copy. Our 25th year.

AUDIO-FORUM®

Room 3813, 96 Broad Street,
Guilford, CT 06437 (203) 453-9794

than a million copies since it appeared in 1979. The book is, above all, a meditation on an unlikely subject: commerce. One autumn afternoon in the 1800s, a New Hampshire farmer bound for the market at Portsmouth sets out to sell off the fruits of his labor from that year:

"In October he backed his ox into his cart/and he and his family filled it up/with everything they made or grew all year long/that was left over."

The book is imbued with magic, distilled and folkloric, arising from sources tangible—a catalog of the farm's products, flax to cabbage—and intangible: each step of the journey we sense the farmer's longing to make his way home. His haven is the house on the hill, candlelight glowing from the windows in darkness, where "his son, his daughter, and his wife were waiting for him."

In the nearly two decades since *The Ox-Cart Man*, Hall has written a series of children's books set in the past and recent past, in that country of fields, pastures and mountainsides. He has created a cycle of stories—*The Man Who Lived Alone, Lucy's Christmas, The Farm Summer 1942, Lucy's Summer*—each one interlocked and independently whole, satisfying as a draft of clear well water. It is a body of work unique in the universe of picture books and in American letters. This year he has added two titles to this memorable sequence, both from Harcourt Brace.

Old Home Day, a picture book illustrated by Emily Arnold McCully and set in the fictional village of Blackwater, pays homage to a living tradition. In 1899, New Hampshire's governor fixed an annual homecoming festival for the state. As the hardscrabble farms were emptying of young people, bound for textile mills in Massachusetts or fertile land on the new frontier, the wayfarers were called to return each August. "In summer," Hall writes, "old Blackwater people came back like the birds. They brought their grandchildren to show them where the barn was—and where they had gone to the one-room school." Today, he reminds us, families yet gather on the green, celebrating New England's history and the cherished rhythms of small-town life across this nation.

Geese Mate For Life
Symbol of Eternal Love

Eternal love is beautifully symbolized in our Geese Mate for Life pin. Finely crafted in 14K yellow gold, two geese are majestically depicted together in flight. As a gesture of your love, or the special bond between two people, it makes the perfect gift.

Comes beautifully gift wrapped with the sentiments expressed by this piece on a small card tucked inside the box. Shown actual size.

Pin with ruby eyes.....$345.00
Pendant w/ruby eyes, 18" chain.....$445.00

Absolute Satisfaction Guaranteed

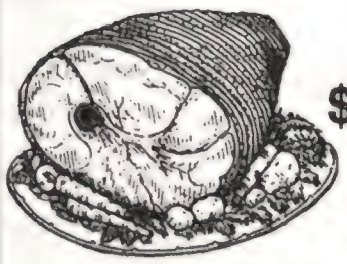
Mail or phone orders M-F 9am - 5pm **1-800-433-2988**
Postage Pd. Sent within 24 hours UPS Second Day Air
Visa, MasterCard or American Express
Free catalog, call or write

Cross Jewelers
Manufacturing Jewelers since 1908
570S Congress St. Portland, ME 04101 © 92

SWEET 'CITY' HAM

Sweet and juicy with just a hint of smoke—Spiral Sliced —Glaze included

INTRODUCTORY OFFER



ITEM: H27517
4-6 LBS.
$19.88
PLUS $6.95 S&H
Save $10 over catalog price

YOU'RE IN FOR A TREAT. Sugar and spice glaze, hickory smoked, moist cured, lean and closely trimmed, and slowly cooked by our 24-hour method—it's the most succulent and delicious ham you'll ever eat. Apply the enclosed glaze, put in the oven and wait for a mouth-watering aroma to fill the air. Prepared for you right on the Burger family farm. This is an introductory offer for new customers only and is limited to two hams. Expires Feb. 28, 1997. Satisfaction guaranteed.

Call 1-800-624-5426
or send to
BURGERS' SMOKEHOUSE
Dept. 17 California, MO 65018

Haven't you always wanted a weather station?

The Weather Monitor II makes state-of-the-art weather technology affordable enough for home and hobby use! Provides all the features of a professional-quality weather station at a fraction of the cost.

FEATURES INCLUDE:

- Inside & Outside Temps
- Inside Humidity
- Instant Metric Conversions
- Wind Speed & Direction
- Wind Chill
- Outside Hum. & Dew Point Option
- Barometer
- Alarms
- Time & Date
- Highs & Lows
- Rainfall Option
- Optional PC Interface

1-800-678-3669

M-F 7 a.m. to 5:30 p.m. Pacific Time • **SM671I**
FAX 1-510-670-0589 • M/C and VISA
One-year warranty • 30-day money-back guarantee

DAVIS INSTRUMENTS
3465 Diablo Ave., Hayward, CA 94545

In *When Willard Met Babe Ruth*, a story accompanied by painter Barry Moser's masterful watercolors, two of Hall's life passions converge—New England early in this century, and baseball. Based on the premise that a 12-year-old New Hampshire farm boy meets up with "the best left-hander in baseball" one autumn afternoon in 1917, the book is a paean to sports demigods, generous fathers, loyal sons and that embattled minority, the New Hampshire Democrats.

In tone and texture, *Willard* harks back to *The Farm Summer 1942*, also illustrated by Moser. The most autobiographical of Hall's works for children, the book evokes another summer overshadowed by war. That year, the 14-year-old Hall worked alongside his grandfather in the fields. It is a season recounted with deep affection in *Farm Summer*; Hall's memories are recast as the experiences of Peter, a 9-year-old boy who arrives to spend the summer with his grandparents.

Even on cloudless afternoons, perfect for haying, the dark nimbus of war hangs in the air. Each night, the "big radio near the wood stove" carries news of "air raids in Europe and fighting in New Guinea." And each night, Peter sleeps in the silent farmhouse, a boy secure under layers of quilts, intuiting that safety is, after all, hard won. The children who come to Donald Hall's books will recover not only portions of America's past but of every family's individual histories and heart.

Many of this year's children's titles make time travelers of us all, offering passage to a 19th-century fishing village in England; the Ithaca of Homer's *Odyssey*; a Mississippi hamlet on the eve of the civil rights movement; Elizabeth

Grandmother's Pigeon
by Louise Erdrich,
illustrated by Jim LaMarche

BackSaver Bag™

Its Revolutionary Ergonomic Design Makes Your Carrying Load Feel One-Third Lighter!

Available in seven different models. Made In The U.S.A.

Our *ErgoStrap* redistributes the weight asymmetrically and relieves pressure on your shoulder and back.

Crafted in supple full-grain leather, ballistic nylon or cotton canvas with leather trim.

Use as an everyday bag, briefcase, lap-top computer, travel or executive bag.

Large 11" x 15" x 5". Medium 9½" x 14" x 4".

Patent Pending.

Call for a free catalog.
1-800-251-2225
BackSaver
53 Jeffrey Avenue / Dept. 02C / Holliston, MA 01746

OUR 18th YEAR

Rent Mother Nature®
Lease A Sugar Maple Tree Or Sap Bucket For One Year

A truly memorable CHRISTMAS GIFT. First, we'll send each person on your list a copy of an authentic 1890 TREASURY DEPT. lease, hand-personalized and suitable for framing — plus a GIFT CARD from you. During the harvest each lessee receives PROGRESS REPORTS full of facts & folklore, thus sharing in the adventure of sugaring. In Spring '97, when all the sap has been processed, each Tree Tenant will get at least 50 oz. of the finest 100% pure wood-fired MAPLE SYRUP in decorated jugs (25 oz. guar. to Bucket Borrowers) even more if Mother Nature is bountiful. We do all the work, your friends get the delicious results, you get the raves! **100% satisfaction guaranteed!**

Tree Lease $44.95 or
Bucket Lease $34.95
Add $6.95 per lease for shipping & handling
Send for FREE Catalog!

RENT MOTHER NATURE®, Dept. 872
52 New St., Box 193,
Cambridge, MA 02238
Phone **800-232-4048** VS, MC, AX, Disc.

©1996, Rent Mother Nature, Inc.

"The world's best knives are now MADE in AMERICA!"
Craig Claiborne
INTERNATIONALLY ACCLAIMED CRITIC & COOKBOOK AUTHOR

A breakthrough!
Edges stay sharp up to 10 times longer!
New, unique higher carbon stainless alloy fully forged and processed with aerospace technology.

Chef'sChoice
Trizor Professional 10X Cutlery
For stores near you call EdgeCraft Corp. (800) 342-3255

Bargain Books

- **Save up to 80%** on publishers' overstocks, imports, reprints. Quality hardcover books, starting at $3.95.
- **Save 30% or more** on a huge selection of current books and best sellers.
- Over 60 subject areas: Biography, History, Travel, the Arts, Nature and more.
- America's biggest bargain book selection.

Free Catalog
HAMILTON 5253 Oak Falls Village, CT 06031-5005

SCOTTY

THE FREEDOM MACHINE
Rolling Walker

- Comfortable seat with full back support
- Convenient basket, tray and cane holder
- Removable shopping basket optional
- Fully adjustable, folds to 13" for travel
- Easy grip drum brakes
- Super strong, light weight frame

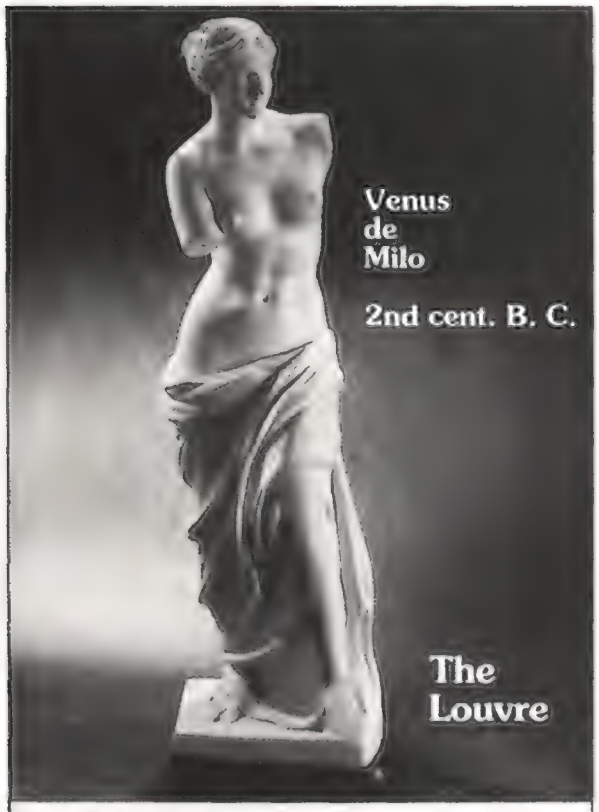
MONEY BACK GUARANTEE

Take Scotty along to enjoy the active life you've always led.

For information call **800-752-6900**

TR GROUP

TR GROUP INC. 903 WEDEL LANE GLENVIEW, IL 60025



What a bargain! Found in 1820 on the island of Melos. France bought the lovely lady for 12,000 Francs. Now they won't sell her but we have reproductions of her marvelous beauty. Handcrafted from bonded marble with alabaster bases. 10"...$89 ppd; 16½"...$185 ppd; 26"...$574 ppd; 34"... $1099 ppd; 46" including black base...$2980 plus shipping. Check, VISA, MC. Unqualified guarantee. **120 page color catalog $6. America's largest collection of quality reproductions.**

ELEGANZA LTD. *Importers of Fine Statuary*
Magnolia Village • 3217 W. Smith #4311
Seattle, WA 98199 • 206/283-0609

Cady Stanton's hometown of Tenafly, New Jersey, in 1880.

Zilla Sasparilla and the Mud Baby by Judith Gorog, illustrated by Amanda Harvey (Candlewick, $14.99) A fetching fable, starring a mountain woman who rescues a mysterious foundling from beside a river, then takes him home to be fed, tucked in a blanket and nestled "into her dresser drawer."

The Fiddler of the Northern Lights by Natalie Kinsey-Warnock, illustrated by Leslie W. Bowman (Cobblehill, $14.99) Set deep in the northwoods, a winter's tale of one night when the skies glowed and villagers, bewitched and joyful, danced to music flowing "clear as a mountain stream."

The Magic Maguey by Tony Johnston, illustrated by Elisa Kleven (Harcourt Brace, $15) At the center of a village in Mexico grows a great spiky agave, offering green shelter and sustenance. A celebration of village life and of a young and resourceful hero who saves this much-loved maguey.

The Dream Jar by Bonnie Pryor, illustrated by Mark Graham (Morrow, $15) For a turn-of-the-century immigrant family from Russia, the streets of New York are paved with privation—until Valechka, the bookish middle daughter, learns to read English. A tribute to one girl's passion for learning, with luminous paintings re-creating the Lower East Side of 100 years ago.

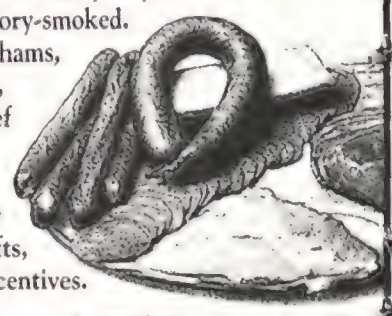
Runnery Granary by Nancy Farmer, illustrated by Jos. A. Smith (Greenwillow, $15) A clever granny's recipe for evicting pesky gnomes, the ones who've gone after the grain "like bears after honey." This tale of good-natured revenge is touched with a quirky wizardry.

Spirit of Hope written and illustrated by Bob Graham (Mondo, $14.95) Introducing a family we hope to hear from again, the impecunious but jolly Fairweathers. Faced with the loss of their cottage, it takes pluck, and not a few friends, to devise an ingenious solution.

The Toy Brother written and illustrated by William Steig (HarperCollins, $14.95) When an alchemist's son muffs an attempt at potion concoction, he's reduced to a size "no bigger than a cockroach." Vintage Steig, medieval-style;

Free Turkey Tenders!

OUR GOOD HICKORY SMOKED MEATS are cured the old-country way -- bin cured and slowly hickory-smoked. These turkeys, hams, sausages, bacon, chicken and beef products are completely different. They make quality gifts, premiums or incentives.



❑ **"Smokehouse Sampler"**
Over 3 lbs. total of our Sliced Ham, Turkey, Salami, Beef Links, Bismarkian® Sausage, our own Smoked Cheddar Cheese, and receive ***FREE ½ lb. Turkey Tenders,*** a tender filet of turkey breast, available exclusively from the Smokehouse *(A $6.00 value)*. Limit one per customer - Shipped with order.
Catalog No. 17. . . $22.50, plus $5.00 S&H

❑ **"Deluxe Sampler"**
Same as the Sampler above, including ***Free Offer***, plus Peppered Beef Jerky, Pork Tenderloin, Turkey Sausage and our homemade Sweet & Spicy Mustard.
Catalog No. 67 . . . . $42.00, plus $6.00 S&H

❑ ***FREE*** 32-page Color Catalog

Satisfaction guaranteed since 1945

New Braunfels Smokehouse

Dept. 801 • 441 N. Guenther St • P.O. Box 311159
New Braunfels, Texas 78131-1159

CALL 800-537-6932

Please enclose check or credit card number and expiration with signed order.

World's best home weather station* – only $379

others from $179

Actual size: 6 3/4" x 2 3/4" x 1 1/4"

Features superbly accurate: • barometric pressure • 3-hr. pressure change • indoor/outdoor humidity† • dew point† • wind speed/direction • indoor and outdoor temperature • wind chill temperature • rainfall†.

Instant access to: • current values • today's highs and lows • yesterday's highs and lows • long term highs and lows • time/date for all highs/lows • rain totals† for today, yesterday and long term • alarms, and much more. **Over 100 values in all!**

Versatile 4 mode serial port makes it easy to record data automatically or monitor values remotely by phone, modem or radio link.

The **ULTIMETER 2000** is a great value; only $379 + shp'g. (†Optional sensors add'l.)

* Even *WeatherWatch Magazine* (May, '96), known for its hard-hitting, authoritative reviews, concludes "the best we have seen."

Call or write for free brochures

1-800-USA-PEET

or 908-531-4615 FAX: 908-517-0669

PEET BROS COMPANY

1308-611S Doris Ave., Ocean, NJ 07712
Visit our Home Page at www.peetbros.com

another droll diversion from the *New Yorker* cartoonist.

Seeing Red by Sarah Garland, illustrated by Tony Ross (Kane/Miller, $12.95) Never mind that Napoleon's fleet is bearing down on an English coastal village: the armada doesn't stand a chance. They're up against the daring Trewenna, a valiant young heroine who devises the ruse that saves the day.

Willie Takes a Hike by Gloria Rand, illustrated by Ted Rand (Harcourt Brace, $15) From the celebrated author/illustrator team, the exploits of one plucky mousekin who, vowing "I won't go far," treks off into a nearby junkyard. This lively rendition of his adventures also succeeds in teaching wilderness survival skills and pays tribute to search-and-rescue volunteers everywhere.

Dark Day, Light Night by Jan Carr, illustrated by James Ransome (Hyperion, $14.95) Snowy days and lightning storms, ripe fruit and full moons, all the splendors of everyday recited for a child feeling downcast, by her beloved Aunt Ruby,

Runnery Granary
by Nancy Farmer,
illustrated by Jos. A. Smith

in a voice that is "deep as dusk and hushed as trees."

Dragon Soup by Arlene Williams, illustrated by Sally J. Smith (Starseed/HJ Kramer, $15.95) An homage to a quick-witted lass who arbitrates a fiery impasse between two scaly gourmets—who has created the tastiest broth, anyway?—and thereby manages to save her entire family from calamity.

The Day Gogo Went to Vote by Elinor Batezat Sisulu, illustrated by Sharon Wilson (Little, Brown, $14.95) April 1994, the season when freedom rang out across South Africa: a 6-year-old girl and her 100-year-old great-grandmother set out for the polls, creating their own history on the day black citizens cast their first ballots.

The Wanderings of Odysseus: The Story of the Odyssey by Rosemary Sutcliff, illustrated by Alan Lee (Delacorte, $22.50) Homer's epic, recast in spellbinding narrative by Britain's master storyteller (SMITHSONIAN, November 1993), accompanied by splendid watercolors: for older children, and for their parents, a masterpiece.

Market! written and illustrated by Ted Lewin (Lothrop, Lee & Shepard, $16) An inspired armchair journey, Ecuador to Uganda, Manhattan to Morocco, into the worlds and varied cultures where vendors hawk flutes, potatoes, horses, copper pots, anything humans "grow, catch, or make." Aspiring vagabonds and anthropologists will covet this book.

THE GREENWICH WORKSHOP, INC., Connecticut
E GREENWICH WORKSHOP LTD., Scarborough, Ontario, Canada
GREENWICH WORKSHOP EUROPE, Worcester, England

THE GREENWICH WORKSHOP
The Art of Discovery®

THE VOYAGE OF THE BASSET

JAMES C. CHRISTENSEN

Welcome aboard! "Believing is seeing" (*Credendo vides*), the motto of the H.M.S. *Basset*, is your passport to a wondrous fine art adventure from the imagination of artist James C. Christensen.

Set sail aboard a magical vessel as you explore the beauty and importance of imagination itself. Ask your dealer about the exclusive Believer's Etching Edition for an extra dose of delight!

COURT OF THE FAERIES: a limited edition fine art print from Voyage of the Basset, *3500* signed and numbered. Suggested retail: $245*

VOYAGE OF THE BASSET: a Collector's Edition™ book signed by the artist, clothbound,and slipcased. 168 pages. (Hardcover edition shown.) Accompanied by the limited edition fine art print "The Oldest Professor" 2500 signed and numbered. Suggested retail: $195*

**Also published in a separate edition of 1000, available only as part of the Believer's Etching Edition.*

SPECIAL 1996 OFFER: Purchase the *Voyage of the Basset* Collector's Edition™ book and *Court of the Faeries* limited edition print by December 31, 1996, at a special price.

For more information, please call:
1-800-658-7806 in the U.S.
or 1-800-263-4001 in Canada.

P890

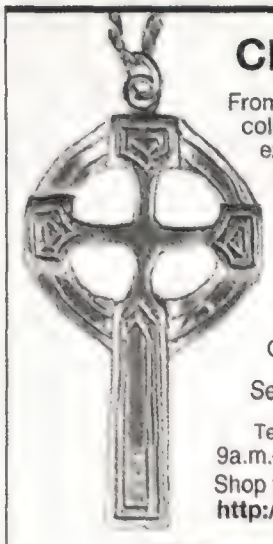
ALASKA
Our 20th Year!
• Natural History Safaris
• Backcountry Lodges
ALASKA WILDLAND ADVENTURES
Free 28 Page Catalog
800-334-8730
PO Box 389, Girdwood, Alaska 99587

DALLAS PRIDGEN JEWELRY
One at a time, by hand
"On Parade" Bracelet, 11 links,
14K Gold $595, Sterling $165. Visa/MC/Amex
Unconditionally Guaranteed. 1-800-477-1856
PO Box 147, Chapel Hill, NC 27514 (919) 933-5759

Bronco Buster by: F. Remington
AMERICAN BRONZE
FINE ART FOUNDRY
Deal with Foundry Direct
Artist Castings & Reproductions
in Silver and Bronze.
Color catalog available
(407) 328-8090 or 1-800-881-8090
1650 East Lake Mary Blvd.
Sanford, FL 32773

Imagine a Credit Card Size Tool Kit!
A Truly Unique & Useful Gift
It's here! Just 1.3 oz., about 1/8" thick and packed with useful tools. Slim enough to fit in a wallet or purse with ease.
The Credit Card Companion
• Superb quality.
• Zytel® and Stainless Steel construction
24.95
Plus $3 S&H. CA orders add 7.25% tax
Ask About Quantity Discounts
TOOLLOGIC™
INCORPORATED
4464 McGrath St., Suite 114, Ventura, CA 93003 • USA
We're on the internet www.toollogic.com
Toll Free
800/483-8422

JAPAN
Kimono, dolls, Swords, and much more!
朝陽
Asahi Japan Collectibles
Asahi Japan Collectibles
141 Wilbur Cross Hwy. Suite 182
Kensington, CT 06037
Tel: 1-888-ASAHI-JC (272-4452)
Fax: 860-826-5505
E-mail: RMURPHY514@GNN.COM
http://www.asahi-jc.com


CELTIC CROSS
From our extensive Celtic jewelry collection, a pendant simply executed in silver or gold.
Shown full size.
No. 2270 Celtic Cross
Sterling silver $38.00
(24" sterling chain)
14 kt. gold $300.00
(chain not included)
Add $5.00 for handling.
Check, M/C, Visa or Amex.
Send for our unique catalog.
Telephone 1-800-324-4934
9a.m.–5p.m. Pacific Time Mon–Sat
Shop through our on-line catalog at:
http://www.davidmorgan.com/
David Morgan
11812 North Creek Pkwy. N., Suite 103, Bothell, WA 98011

Cider Apples
written and illustrated
by Sandy Nightingale

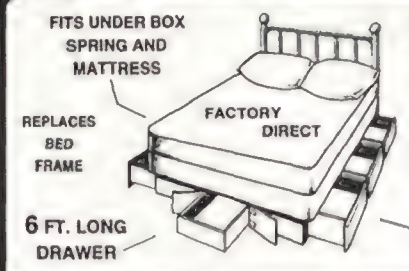
Lewin traveled the world to create his lucent paintings.

Nanny Fox and the Christmas Surprise by Georgie Adams, illustrated by Selina Young (Doubleday, $14.95) Our vulpine hero, watchful guardian to a brood of errant chicks, returns to rescue everyone's happy holiday, in a successful sequel to last year's charming *Nanny Fox.*

Next Year in Jerusalem: 3000 Years of Jewish Stories, retold by Howard Schwartz, illustrated by Neil Waldman (Viking, $16.99) The renowned folklorist has gathered folk and fairy tales, Rabbinic and Hasidic narratives, to recall the rich traditions of a city "where the historical and the legendary meet."

Saving Sweetness by Diane Stanley, illustrated by G. Brian Karas (Putnam, $15.95) A larky tall tale, featuring a seraphic orphan who vanquishes varmints of every stripe. Not surprisingly, she inveigles the crusty local sheriff into adopting her—and seven more urchins besides. A Western-style winner, with antic illustrations from Karas.

In the Heart of the Village written and illustrated by Barbara Bash (Sierra Club, $16.95) A foray to India, where the

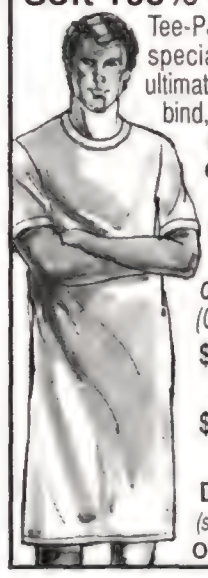
Anderson™
BEDROOM ORGANIZER


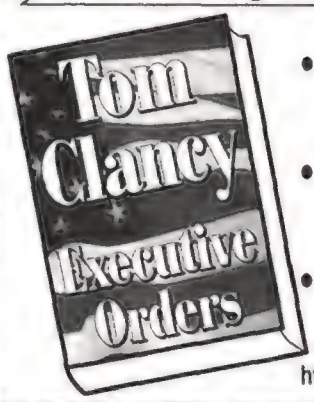
PUT A DRESSER UNDER ANY BED
ORDER CATALOG 676 1-800-782-4825

Small Ships, Big Adventure
Cruise Panama, Belize, Virgin Islands, Trinidad, Aruba-Curacao in Winter. Summer in the Erie Canal, Newfoundland, Nova Scotia, Great Lakes, Mid-America & more...
Free Brochure 800-556-7450
American Canadian Caribbean Line

MEDITATING FROG
Suitably robed and posed for meditation, this ribbiting little Zen master will bring a smile to anyone's face indoors or out. Aged bronze bonded stone. $39 postage paid.
Jacob Folger, Sculptor
429 Buchannan St., NW, Washington, DC 20011
Orders Only
800-357-9156
VISA, MasterCard, Amex

4⅞" Tall

Better Way To Sleep
Soft 100% Cotton Knit TeePJ's™

Tee-PJ's are not ordinary nightshirts. The special knit moves as you move for the ultimate in sleeping & lounging comfort. No bind, no bunch, no buttons, no side seams.
Most comfortable sleeper you've ever worn or your money back!
Great for Ladies, too.
White or Soft Blue. SIZES to fit 90-250 lbs.
Specify man/lady and height/weight.
ORDER NOW, while prices include S&H!
(Can't wait? For RUSH AIR delivery add $2)
$19.95 ea. 2 for $34.85 (Save $5)
Long sleeve style (not shown)
$25.95 ea. 2 for $43.90 (Save $8)
WITTMANN TEXTILES
Dept. 155, Hobe Sound, FL 33475
(ship to FL add tax) Cotton Comforts Since 1955
ORDER BY MAIL (OR 1-561-546-4656)

BOOKS #1 ON TAPE®
World's Largest Selection


• Best Sellers on Cassette
• Full-length Readings
• Call for Free Brochure
http://booksontape.com
Box 7900-S, Newport Beach, CA 92658
(800) 626-3333

Recorded Books™

"Best on Audiocassette"

The Old Man and the Sea
by Ernest Hemingway Narrated by Frank Muller

Unabridged on audiocassette. Over 1,800 titles to choose from—histories, mysteries, classics, sci-fi, best-sellers and more. Professionally performed by Broadway actors! Ask about easy rentals by mail.

Call now for a free brochure:

1-(800)-638-1304

270 Skipjack Road • Prince Frederick, MD 20678-3410

ARCTIC ODYSSEYS™
To the NORTH POLE, Canada's Baffin & Ellesmere Islands, Greenland, Russian Far East & Yakutia with SPECIALISTS. Cultural, Wildlife, Fishing, Dog Sled, & Skiing ADVENTURES.
2000 McGilvra Blvd. E. Ste. S,
Seattle, WA 98112
(206) 325-1977 / FAX (206) 726-8488

TOY SOLDIERS

Queen Elizabeth by Britains, Ltd.
4" Ht., Metal, Handpainted, — $20 PPd.

Armchair General,® Ltd. "A"
12977 N. Outer Forty Dr., St. Louis, MO 63141

TOY SOLDIER CATALOGS: $2 FOR 3 CATALOGS/YEAR

COPPER CANYON
BATOPILAS & COLONIAL ALAMOS

Customized Sierra Madre rail excursions with our exclusive naturalist-trained native guides to a canyon deeper than the Grand Canyon. Cliff-dwelling Tarahumara Indians; Mayo Indian villages; canyon descents; cascading waterfalls; horseback riding; mountain lodges in pine forests & historic hacienda hotels in tropical colonial towns. Daily departures.

OPEN MON-FRI 9 AM - 6 PM CT **1-800-843-1060**
COLUMBUS TRAVEL, 900 RIDGE CREEK, BULVERDE, TX 78163

Slow down!

Biking and walking trips in Europe for people who enjoy freedom by day and the finest châteaux by night. Experience the B&R difference.

1-800-678-1147

Butterfield & Robinson
BIKING & WALKING SINCE 1966

sacred banyan tree stands as a leafy refuge in many a hamlet. At once a work of inspired botanical lore and a portrait of the ageless rhythms of the subcontinent.

Can I Help? written and illustrated by Marilyn Janovitz (North-South, $13.95) A follow-up to the irresistible *Is It Time?*, featuring a father and son, winsome wolfies both, bounding from one household chore to the next. An endearing romp for toddlers.

Satchmo's Blues by Alan Schroeder, illustrated by Floyd Cooper (Doubleday, $15.95) A chapter from the childhood of the jazz genius, centered around the day Louis Armstrong, set on blowing the stars "right out of the sky," bought his first battered cornet from a pawnshop for $5.

After the War Was Over written and illustrated by Michael Foreman (Arcade, $18.95) A touching and funny autobiographical offering, recounting a peacetime decade in a small British fishing village, from the acclaimed English illustrator. This book, opening with the day "victory bonfires blazed on the village green," is the volume succeeding Foreman's masterful *War Boy*, his memoir of early childhood years during World War II.

Henry & Horace Clean Up by Wolfgang Mennel, illustrated by Gisela Dürr, translated by Marianne Martens (North-South, $15.95) Take one neatnik elephant and one higgledy-piggledy porker: in the midst of subduing domestic chaos, they manage to build a campfire, watch the stars and forge a friendship.

Stories on Stone written and illustrated by Jennifer Owings Dewey (Little, Brown, $16.95) A lyrical and informative introduction to rock art, the handwork of the ancients and "maps of the human heart, mind, and imagination," from an artist whose reverence for petroglyphs grows out of her childhood travels in New Mexico.

Tonio's Cat by Mary Calhoun, illustrated by Edward Martinez (Morrow, $16) Winning over a "skinny old cat with a torn ear and a hind-leg limp" with leftover tostadas and beans, a lonely boy, recently emigrated from Mexico, makes a new life in his California neighborhood. This notable author's story, rich

Lake Palace Hotel Room-
Lake Palace Hotel, Udaipur

LEGENDARY ADVENTURES AND UNEXPECTED PLEASURES. From the mountains of the Himalayas to the beaches of the Indian Ocean, you'll discover an extraordinary world of culture and diversity. There's no adventure quite like India and no time like the present to experience it. India, a country that is truly many worlds in one. As Mark Twain once said: "Nothing seems to have been forgotten, nothing overlooked."

India

Everything you'd never expect™ © 1996

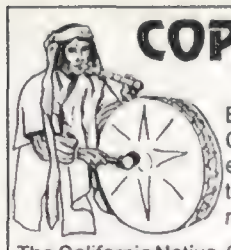
Call **1-800-GO INDIA** for your complimentary India Travel Guide, or write to: MSI, 25-15 50th Street, Dept CP, Woodside, NY 11377

SM11-96

NAME

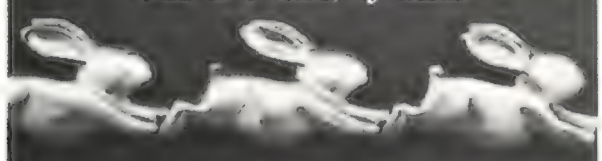
ADDRESS

CITY STATE ZIP



COPPER CANYON
Costa Rica and More
Explore Mexico's Copper Canyon, Costa Rica, Patagonia and many other exciting destinations. Deluxe escorted trips and custom adventures. For free newsletter: 1-800-926-1140
The California Native, 6701 W. 87 Pl, Los Angeles, CA 90045

The Tea Club
Each month brings 2 rare and outstanding teas from the world's finest estates and growing regions. Just $8.50/month (plus S&H).
A TERRIFIC GIFT 1-800-FULL-LEAF
(800-385-5532)

DALLAS PRIDGEN JEWELRY
One at a time, by hand

"Rabbits" Bracelet, 9 links.
14K Gold $595, Sterling $165, Pendant 14K Gold $75, Sterling $35. Visa/MC/Amex
Unconditionally Guaranteed. 1-800-477-1856
PO Box 147, Chapel Hill, NC 27514 (919) 933-5759

SHIP MODELS

• from 100-1000 CORPORATE Sales, Marketing
• Cruise Ships, Naval Ships, Freighters, Ro-Ro's, Tankers, Container Ships, and legendary LINERS!
• CUSTOM built for MUSEUMS, SHIPYARDS, COLLECTORS AND LITIGATION
• Individually "hand-crafted" from fine scale brass.
MARITIME REPLICAS INTERNATIONAL
PHONE (510) 337-0717 FAX (510) 337-0771

KITES
FREE COLOR CATALOG
Choose from over 200 exciting kites.
• Many unusual & innovative designs.
Call or write for your catalog today!
Into The Wind • (800) 541-0314
1408-R Pearl St., Boulder, CO 80302

RISE AND FALL

High water in spout: Rainy/Storm
Low water in spout: Sunny/Fair
Brought over by the Pilgrim Fathers from 17th C. Holland, the Weather Glass still fascinates with its effectiveness and simplicity. The hand blown 10" glass shows the weather accurately hours in advance. Comes with 12" brass/copper bracket, certificate and instructions.
Weatherglass - $34.95 (+ 4.95 S&H)
Giftpackaged. We ship in 24 hours.
Brochure or Order: 1-800-895-3050
TRADING STORIES
THOUGHTFUL GIFTS NEED A STORY

Costa Rica · Belize · Africa · Galapagos
NATURAL HISTORY TRIPS WORLDWIDE SINCE 1982
P.O. Box 3656-N13
SONORA, CA 95370
800 351-5041
GEO EXPEDITIONS
Fulfill Your Dreams of Adventure

in compassion, deserves a wide audience.

Nearer Nature written and illustrated by Jim Arnosky (Lothrop, Lee & Shepard, $18) An absorbing chronicle of the fields and forests surrounding the author's Vermont farmstead, from the writer and artist who has created dozens of outstanding natural history books for young people.

The Hand-Me-Down Horse by Marion Hess Pomeranc, illustrated by Joanna Yardley (Albert Whitman, $15.95) Against a backdrop of World War II's aftermath, a recital of one Jewish family's courage, hope and determination to teach themselves English, as they await passage to America, land of new words like "homework" and "bunt."

Grandmother's Pigeon by Louise Erdrich, illustrated by Jim LaMarche (Hyperion, $15.95) Deep, abiding magic from the gifted novelist: a miracle unfolds in a household where three mysterious hatchlings emerge from their shells. The young birds, it turns out, are of the species *Ectopistes migratorius*—passenger pigeons, extinct since 1914. Grown-ups and children will find this a powerful excursion into a province of redemption and freedom attained.

The Long, Long Letter by Elizabeth Spurr, illustrated by David Catrow (Hyperion, $14.95) An ode to the joys of "writing up a storm," as one mega-missive, bringing news of "the newly born, the price of corn," is dispatched to brighten the days of a lonely aunt camped out next to her mailbox.

Animal Friends: Thirty-one True Life Stories by Dick King-Smith, illustrated by Anita Jeram (Candlewick, $19.99) From the British dairy farmer turned writer (and the author of *Babe*, the book that became the movie), a bewitching compendium of creatures—affectionate goats to inquisitive badgers.

The Ballot Box Battle written and illustrated by Emily Arnold McCully (Knopf, $17) History at its most compelling: a portrayal of Elizabeth Cady Stanton and her lifelong struggle to win the vote for women, infused with the message that girls who follow their dreams can change the world.

Cider Apples written and illustrated by Sandy Nightingale (Harcourt Brace,

HARP SEALS
Visit the famed harp seal pupping grounds on the Magdalen Islands.
Call for a free color brochure
SM15
TravelWild EXPEDITIONS Since 1980
1-800-368-0077

Factory Direct • Handcrafted • Elegant
WOOL CAPES
Pure wool. 3 styles. 6 colors. People love the warmth - and the romance - of our capes. Brochure and Free swatches.
1-800-788-9842 or write:
Casco Bay Fine Woolens, 34 Danforth St. Box 25SM, Portland, Maine 04101

Chef'sChoice®

"My recipe for incredibly sharp knives..."
Chef'sChoice® Diamond Hone® Sharpeners
Craig Claiborne
FOOD CRITIC AND COOKBOOK AUTHOR
For a store in your area, call EdgeCraft Corp. (800) 342-3255.

CELEBRATION BOWL
Weddings - Anniversaries
Send someone you love a personalized crystal masterpiece. Hand blown and etched.
Special Inscriptions? Yes.
Rush Orders? Absolutely.
8.5" - $129 12" - $239
408-427-3512

Authentic Ancient Coins

Greek • Roman • Byzantine. Free catalog
Edward J. Waddell, Ltd.
Suite 316, Dept.S, 444 N. Frederick Ave
Gaithersburg, MD. 20877
(301) 990-7446 fax:(301)990-3712
Please visit our website at:
http://www.coin.com

The GOURMET COFFEE TOUR
Explore the Gourmet coffees of the Pacific Northwest!
First Month Free 1/2 lb with 1/2 lb purchase.
One month trial membership just $10.95.
Cancel anytime.
Send check for $10.95
NW Bean & Tea Co.
16869 SW 65th Ave. #357
Lake Oswego, OR 97035
Call: 1-888-690-2326

$15) In a haunting fantasy dedicated to the "disappearing apple orchards of England," one New Year's Eve becomes the night when animals whisper secrets and fairies converge to rescue an ancient grove of trees.

The Unbreakable Code by Sara Hoagland Hunter, illustrated by Julia Miner (Northland, $14.95) During the Pacific islands assaults of World War II, 420 Navajo marines saved countless lives as they transmitted messages coded in their native tongue. The author traveled to the Southwest to interview surviving code talkers for this testament, in fiction, to their bravery and sacrifice.

Gift of the Sun by Dianne Stewart, illustrated by Jude Daly (Farrar, Straus, Giroux, $15) Set in contemporary South Africa, a tale of one farmer's trades—cow for sheep, sheep for seeds—and the crop of sunflowers, "following the sun from morning to night," that brings him well-earned prosperity.

The Inside-Outside Book of Libraries

A Handful of Seeds
by Monica Hughes,
illustrated by Luis Garay

illustrated by Roxie Munro, text by Julie Cummins (Dutton, $15.99) From a weathered one-room cottage on North Carolina's Ocracoke Island to the vast holdings of the Library of Congress, a survey of the places where our books, and our shared cultures, reside.

Prietita and the Ghost Woman/ Prietita y la Llorona by Gloria Anzaldúa, illustrated by Christina Gonzalez (Children's Book Press, $14.95) In search of a medicinal plant to help heal her mother, a young girl crosses into forbidden territory and the realm of supernatural powers. A story drawn from the traditions of Latin American folklore, with text in English and Spanish.

Open House illustrated by Steven Noon, text by Terry Martin (Dorling Kindersley, $16.95) A lift-the-flap book, taken to new heights, for all ages. Domiciles across the centuries, ancient Roman town houses to 18th-century Japanese dwellings, giving a detailed view of how the inhabitants lived day to day.

The Oxford Children's Book of Science by Charles Taylor and Stephen Pople (Oxford University Press, $24.95) DNA coding to photosynthesis and beyond, an engaging and admirably clear introduction to disciplines from physics to molecular biology. Future scientists will spend many an hour poring over these lavishly illustrated pages.

U.S. TRADITIONS
PRESENTS
The premier Attē Timepiece Collection designed by Michael Attē, master jeweler of the American Southwest. Highly-skilled Native American artisans bring each Attē timepiece to life, cutting by hand the soft, pigskin-lined leather band, which is accented with solid sterling silver conchos. The specially-designed watch face comes inlaid with a classic, water-stained parchment design or the traditional Mimbre design of Kokopelli, an ancient Native American symbol believed to bring fertility and great prosperity. These exquisite timepieces make original gifts as they capture a unique legacy of the Americas.
MEN'S $99.00 - WOMEN'S $89.00
TO ORDER CALL TOLL FREE
1-800-406-5884
VISA • MASTERCARD
OR
SEND CHECK OR MONEY ORDER TO:
U.S. TRADITIONS, INC
P.O. BOX 498 • CORRALES, NM 87048
FREE SHIPPING IN THE CONTINENTAL U.S.
ALLOW 2 TO 4 WEEKS FOR DELIVERY
INTRICATE DETAILS HIGHLIGHT THE UNIQUE SOLID STERLING SILVER BUCKLE AND CLASP
BUK1
MAH1
BUK2
MAH2
SM001 © 1996 U.S.Traditions
MEN'S & WOMEN'S STYLES • CITIZEN'S QUARTZ MOVEMENT • 2 YEAR LIMITED WARRANTY • 30-DAY RETURN GUARANTEE

COPPER CANYON
– Special Birding Programs –
Independent travelers adventure – From Sierra Wilderness Lodge high in the pines, descend 7,000 feet to the tropical floor of the Copper Canyon where you stay at our fabulously restored 19th century hacienda in the antique mining town of BATOPILAS! Waterfalls, old silver mines, ruins and lost cathedrals. The ultimate escape!
1-800-776-3942

PLAYFUL CAT
Pin
Sterling — $49.50
14K Gold — $375.00
Diamond eye add $36.00
VISA/MC/AMEX
1-800-235-0471
24 Hrs. 7 Days
S/H $5.75
velvet box
Size
2"W X 1-1/4"H
ROGER NICHOLS
fine studios jewelry
17 NW Irving Avenue • Bend, OR 97701

BUFFALO RANCHING makes good ecological sense for the American prairie. Please write or call for free catalog of a full range of buffalo products to:
Thundering Herd
Buffalo Products
PO Box 1051, Dept. SM11
Reno, NV 89504
1-800-525-9730

WOOD, WATER & FIRE...
A RELAXING BLEND
Selected cedar, still water and a warming fire...That's all you need to enjoy a relaxing soak in your Wood Fired Snorkel Hot Tub.
For complete details call:
1-800-962-6208
S96114
snorkel hot tubs
Snorkel Stove Co. Dept. S 95114 • Wood Fired Hot Tubs 4216 6th Ave. S. Seattle, WA 98108

The Wüsthof-Trident
GRAND PRIX 6" Cook's
~~$72~~ $46.50
plus S&H
FREE catalog.
Incredible selection of fine culinary tools.
Incredible prices.
(800) 859-6994, dept. SM6B
Professional Cutlery Direct

40+ Hottest Businesses From Your Home With A Computer!
Special FREE Report On
• What home businesses are working—where • What equipment you will need and where to get it • What you will do • Which businesses you can start part time and retain your present job • What your costs will be • Where you can get financing • Where to get training • How to market yourself, your services and products when you work from your home • What your potential is for growth.
Call 1-800-343-8014, ext. 4158

I Meant to Tell You written and illustrated by James Stevenson (Greenwillow, $15) Choosing the perfect pumpkin on Halloween, playing board games inside on a snowy day: a father's recollections, recounted for his daughter as they share memories together. The *New Yorker* cartoonist's series of autobiographical interludes, transformed into memorable picture books, resonates deeply for children and adults.

Rocky Bobocky, The Pizza Man by Emily Ellison, illustrated by Vickey Bolling (Longstreet, $14.95) A large-hearted treasure of a tale, starring one overworked chef, a whiz at rigatoni who is a hopeless businessman. It takes his neighbors, a single-mom math genius and her equally brainy children, to balance the books and save the restaurant.

The Leaf Men and the Brave Good Bugs written and illustrated by William Joyce (HarperCollins, $15.95) "Anything can happen on a beautiful moonlit night"—and it does, in this dazzling account of fearless doodlebugs and their quest to save an old woman's fading garden from ruin. The author of *Dinosaur Bob* has created another classic.

The Journal of Julia Singing Bear by Jewel H. Grutman and Gay Matthaei, with Arthur Amiotte, illustrated by Adam Cvijanovic (Thomasson-Grant, $19.95) This fictional diary-album, illustrated with paintings and traditional quillwork, offers a riveting journey into the life and times of a late-19th-century Lakota girl. Through her eyes, the clash of two cultures and the richness of Plains Indian traditions meld in a voyage to the Dakota Territory and beyond.

Prairie Primer A to Z by Caroline Stutson, illustrated by Susan Condie Lamb (Dutton, $15.99) *O* for oxen, *S* for sewing circle, *W* for whirligig: an enchanting alphabet book and a window on a homesteading family's year in the turn-of-the-century Midwest.

One Summer Day written and illustrated by Kim Lewis (Candlewick, $15.99) For very young children, a jaunty reprise of a 2-year-old's trek into the English countryside, in search of cows and tractors. Tender watercolors from the creator of *Floss.*

Metropolis: Ten Cities/Ten Centuries

Archaeological Tours
LED BY NOTED SCHOLARS
1997 TOURS
ERITREA & ETHIOPIA, Jan
EGYPT, Jan & Nov
GUATEMALA, Feb
YEMEN, Feb
ZIMBABWE, Mar
SYRIA & JORDAN, Mar, Apr, Sep
MALTA, SARDINIA, & CORSICA, May
SICILY & SO. ITALY, May, Oct
WESTERN TURKEY, May, Sep
CYPRUS, SANTORINI & CRETE, May
EASTERN TURKEY, Jun
IRELAND & SCOTLAND, Jun
YANGTZE RIVER, Jun
INDONESIA, Aug
BRITTANY, Sep
CENTRAL ASIA, Sep
ANCIENT ROME, Sep
ALBANIA, Sep
PERU & BOLIVIA, Sep
ISRAEL, Oct
ANCIENT CAPITALS OF CHINA, Oct
SINAI & NUBIA, Oct
AZTEC MEXICO, Nov
SOUTH INDIA, Nov
KHMER KINGDOMS, Dec
archaeological tours
271 Madison Ave., 904SM, NY, NY 10016 (212) 986-3054

I LOVE YOU
Hand-crafted Solid Sterling Pendant
$37 postage paid. Satisfaction Guaranteed.
Entire American Sign Language Alphabet also available, call for free brochure. 800/898-9012 VISA/MC, or send check or m/o to QuietPride™ 56 Saragossa Street, St. Augustine, Florida 32084
Hand is 1½", hangs from silver hoop and 40" leather thong.

NO RISK OFFER!
U.S. MORGAN SILVER DOLLAR
Guaranteed Over 100 Years Old!
As Low As $24.50
BRILLIANT UNCIRCULATED MINT CONDITION
Millions have been melted down, worn-out or damaged from circulating, so it is Scarce to find these Morgans in Original Mint Condition. Order yours today!
*The more you order the more you save:
1 for $29, 10 for $275, 20 for $490
Add $3.00 for shipping (CA residents add 7.375% tax)
California Coin Co.
P.O. Box 578128 • Modesto, CA 95357
Send check, money order or call:
1-800-370-COIN
30 DAY MONEYBACK GUARANTEE

Sun & Moon Pin
Beautifully handcrafted. Sterling Silver Sun with Bright Brass Moon.
$45 + $4.75 S/H
2"Wx1-3/4" H
rainforest express
40 Fourth St., Suite 233, Petaluma, CA 94952
1-800-643-1998
24 hrs. 7 days
VISA/MC • Free catalog

written and illustrated by Albert Lorenz with Joy Schleh (Abrams, $17.95) The city as nexus of human achievement: an unforgettable odyssey into history, sweeping from 11th-century Jerusalem to 20th-century Manhattan. The glorious drawings will instruct and delight children and grown-ups alike.

Hawk Hill by Suzie Gilbert, illustrated by Sylvia Long (Chronicle, $14.95) When a lonely boy who loves birds begins to share in the rescue of injured raptors, he finds hope, friendship and a profound connection with wild creatures. The striking paintings, paired with an eloquent text, make for the finest natural history title of the year.

Peacebound Trains by Haemi Balgassi, illustrated by Chris K. Soentpiet (Clarion, $14.95) Based on the childhood experiences of the author's mother, an account of the early days of the Korean conflict, when "the air rumbled with war" and families were rent apart as they fled south. This saga stands as a testament to the costs of war and to the deepest ties of devotion.

Dreamland by Roni Schotter, illustrated by Kevin Hawkes (Orchard, $15.95) Young Theo should be "marking fabric with tailor's chalk," helping out in the family business—instead of drawing phantasmagorical mechanical creations. Providentially, his sympathetic uncle realizes that real genius underlies the boy's doodles.

A Penny for a Hundred by Ethel Pochocki, illustrated by Mary Beth Owens (Down East, $14.95) On a potato farm in Maine's Aroostook County during the summer of 1944, German prisoners of war arrive to work the fields. This affecting portrait of an unlikely friendship also creates a vivid depiction of homefront America.

The Seasons Sewn: A Year in Patchwork by Ann Whitford Paul, illustrated by Michael McCurdy (Browndeer, $16) Bear's Paw to Fox and Geese, a lexicon of quilter's patterns, and the stories layered behind them, in a nimble excursion into 19th-century America. Michael McCurdy's scratchboard illustrations glow with the light of a past recovered.

A Handful of Seeds by Monica Hughes, illustrated by Luis Garay

Spice of the Month
Featuring 2 hard-to-find exotic spices and full-leaf herbs delivered monthly from the finest growing regions on earth. Call toll-free:
A WONDERFUL GIFT 1-888-8-SPICES

PUZZLE ART
Heirloom quality, intricately handcut wood jigsaw puzzles personalized with silhouettes & messages.
$95 and up
Call or write for free catalog:
(612) 827-5757
Dept S-62 4255 Garfield Ave. S.
Minneapolis, MN 55409-1858
Rainy Lake PUZZLES

BOOKFINDING LIBRARIANS
FIND OLD BOOKS
250,000 TITLES CATALOGUED
FREE SEARCH. BOOKS $35 & UP. PAB
2917 (SM) Atlantic Ave., Atlantic City, NJ 08401
1-800-BK-FOUND, FAX (609) 344-1944

BACKYARD GOLF
* 3 hole kit - professional quality whiffle ball & practice course - tee markers, 5' pins, numbered flags, 6" cups, whiffle balls, instructions and more
* Practice, family fun, parties
* For approx. 25 x 25 yd. (or larger) yard
$289.00 1-800-457-1708 VISA/MC

PUBLISH WITH RUTLEDGE!
Become part of the Rutledge family. We offer a complete publishing plan. Let our professional staff work with you to produce an attractive, high-quality book. Send for our free brochure outlining our step-by-step plan.
Rutledge Books
Dept. SMK
P.O. Box 315
Bethel, CT
06801-0315

GOLFER'S LUCKY STYMIE MARKER
Lucky is the golfer who has this lucky four-leaf clover (instead of a coin) to mark his place on the green. Solid brass, a lifetime gift. Any name expertly engraved. Full price $5 each. Money back if not delighted. We ship in 2 days. Order by mail direct from: ELGIN ENGRAVING CO., 522 Stevens Ct., Dept. 7, Dundee, Illinois 60118. Phone (847) 426-7179.

Celebrate July 4th & All Events
CARBIDE CANNON
BIG BANG! $119.95
Mammoth Cannons shoot with terrific BANG! Have a bang-up time at special events. Uses powdered carbide ammo. Hundreds of shots for few cents. All metal construction with large, rugged cast-iron wheels. Machined brass mechanism for easy loading and firing. Authentic turn-of-century design. Handsome decor when not in use. Made in USA to last a lifetime. Available in 3 sizes: 9" cannon, $49.95 postpaid; 17" cannon, $89.95 postpaid; 25" cannon (shown here) with rapid firing and automatic loading, $119.95 postpaid. The larger the cannon the louder the bang! Carbide ammo, about 100 shots, $6.00; 3 packs for $15.00. Send check, money order or call. Visa, MasterCard accepted by mail or phone. Give card number & expiration. Money-back guarantee. Send for FREE CATALOG!
The Conestoga Co., Inc., Dept S, PO Box 405, Bethlehem, PA 18016
★★ Call 1-800-987-BANG (2264) ★★

Clip & Mail
ORCHIDS
The Ultimate in House Plants!
Grow and enjoy orchids, the most beautiful flowers in the world, in your own home. We'll show you how. Receive a different plant each month, with instructions for care. Buy one plant or many. For free brochure :
The Orchid Club
Box 463, Dept. SM-4 Baldwinsville, NY 13027
TOLL FREE 1-800-822-9411
Name _____
Address _____
City/State/Zip _____

HIEROGLYPHS
PERSONALIZED CARTOUCHE JEWELRY
Translate Anything into Ancient Egyptian Hieroglyphs
SS Pendants from $40 • 18k from $150
Handmade in Egypt • Free Brochure has Alphabet
Pendants • Rings • Bracelets • Earrings
1-800-237-3358
Cartouche spells 'Joan'
Discoveries
Call Toll Free or Write to:
526 N. Fayette St., Dept. SM,
Alexandria, Virginia 22314 ©
CELEBRATING OUR 14TH YEAR!

COSTA RICA
Wildlife Sanctuary of The Americas
INTERNATIONAL EXPEDITIONS INC
WORLD LEADER IN NATURE TRAVEL
1-800-633-4734
ONE ENVIROSS PARK, HELENA, AL 35080

HARRINGTON'S™ of Vermont
Vermont Smoked Ham & Turkey
—now at a $29.00 savings
★ Special Introductory Offer
Regular price $68.90
Now only $39.90
Limit 2
Expires 12/26/96
"You won't find better-tasting ham or turkey than the old-fashioned Corncob Smoked meats that Harrington's makes up here in Vermont. You'll love them — and that's my promise or your money back! — Vern Richburg, SmokeMaster
FREE with your order! 6 oz. of our special Aged Cheddar and 1/2 lb. Cob Smoked Bacon.
HARRINGTON'S of Vermont
1890 Main Street, Richmond, VT 05477
☐ 137-679 Send your GOURMET PACKAGE: Ready-to-Cook Half Ham (6 lbs.) plus Fully-Cooked Boneless Turkey Breast (2 lbs.) to same address for only $39.90, plus $7.95 shipping. Total $47.85. Includes 6 oz. Cheddar and 1/2 lb. Bacon FREE.
Name _____
Address _____
Zip _____
☐ Payment Enclosed ☐ Charge my ( ) VISA ( ) MC ( ) AMEX ( ) Diners ( ) Discover (Include card no. and exp. date, plus your name and address if different from shipping address above.) Available in Continental US only.
Limit 2. Not for retail stores.
RUSH Orders: (802) 434-4444

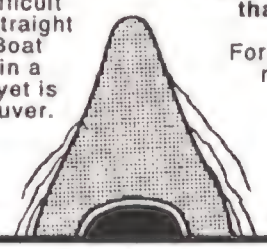
THE POKE BOAT®

IT'S EVERYTHING A CANOE ISN'T.

A canoe is tippy. A Poke Boat isn't. It's remarkably stable.

A canoe is hard to turn and difficult to keep in a straight line. A Poke Boat isn't. It stays in a straight line, yet is easy to maneuver.

A canoe is heavy. A Poke Boat isn't.



It weighs only 22 pounds - built with aircraft strength.

You can buy more than a canoe.

For more information, give us a call.

606-986-2336.

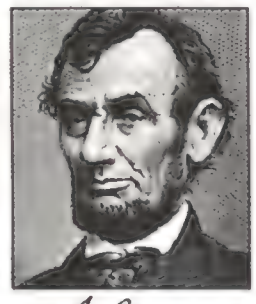
GALÁPAGOS

You, 9 other adventurers and our licensed naturalist will sail by yacht to explore more islands than any other Galápagos expedition. 60 trip dates. Machu Picchu option. Free brochure.

Inca Floats 510-420-1550
1311-S 63rd St., Emeryville CA 94608

OWN A PIECE OF HISTORY

We deal in original letters and documents written by famous people. Americans, World Leaders, Scientists, Authors, Artists, Composers and many more.



Call toll-free or send $2 for our catalogue today.

Please include phone number and individuals of interest.

A. Lincoln

American Historical Guild
17 Firelight, Suite 100
Dix Hills, NY 11746
(516) 493-0303 • 800-544-1947

LIFETIME POCKET SCREWDRIVER

Handiest gadget ever! Only 2" long, fits on his or her keychain...ready to open lids, fix motors, lawnmowers, etc. 1001 uses! We smartly engrave owner's initials. Guaranteed forever, made of solid gleaming Stainless Steel. Full price $7.50 each. Money back if not delighted. We ship in 2 days. Order by mail direct from: ELGIN ENGRAVING CO., 522 Stevens Ct., Dept. 7, Dundee, Illinois 60118. Phone (847) 426-7179.

Swim at Home™

Swim or exercise against a smooth current adjustable to any speed or ability. Ideal for swimming, water aerobics and rehabilitation. The 8' x 15' Endless Pool® is simple to maintain, economical to run, and easy to install inside or outdoors.

Call (800) 732-8660
or visit www.endlesspools.com
200 E Dutton Mill Rd. Dept S10
Aston, PA 19014
ENDLESS POOLS®

Let the Lynx Come In
by Jonathan London,
illustrated by Patrick Benson

(Orchard, $14.95) Corn and beans and chilies: even amid the hardships of barrio life, one young girl succeeds in harvesting a green legacy of hope. A tale of perseverance and generosity in the face of adversity, certain to become a classic.

Children Save the Rain Forest by Dorothy Hinshaw Patent, photographs by Dan L. Perlman (Cobblehill, $15.99) A trek deep into Costa Rica's 42,000-acre preserve, conserved for the future by the efforts of children worldwide.

Let the Lynx Come In by Jonathan London, illustrated by Patrick Benson (Candlewick, $15.99) As the father sleeps one wintry night, a dark shadow looms at the cabin door. Then a wildcat, "still as stone," appears, and one child climbs upon the tawny beast's back and into the forest. A dreamy adventure, accompanied by breathtaking watercolors.

White Socks Only by Evelyn Coleman, illustrated by Tyrone Geter (Albert Whitman, $15.95) A quiet, stunning foray into segregated Mississippi: one hot afternoon, a little girl from the country, venturing for the first time alone into town, drinks from the "Whites Only" fountain. Eventually, in places like this, courage would transcend hate; this ex-

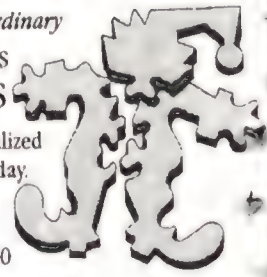
The REAL CARIBBEAN

Small family owned island hotels, inns, villas, beach cottages, chalets, guest houses. Bargain to deluxe. Low round-trip air fares nationwide. Call today for our new, free, 132 page catalog.

1-800-333-0392
www.smallhotels.com

Certain gifts must simply be extraordinary

THE FAMOUS
Stave Jigsaw Puzzles



Since 1974, the finest handcut personalized wooden jigsaw puzzles being made today. $95 - $2000. Call or write for free catalog. Stave Puzzles, Box 329S, Norwich, VT 05055 ☎ 802-295-5200

THE ROSE Pin

Sterling Silver $45.00
14k Gold $220.00
Matching Earrings
Sterling Silver $75.00
14k Gold $440.00

Actual Size
Velvet Box

1-800-235-0471
Visa, MC, AMEX—S/H $5.75

ROGER NICHOLS
fine studios jewelry
17 NW Irving Avenue • Bend, OR 97701

TODD & HOLLAND TEA MERCHANTS

CHOICE RARE LOOSE-LEAF
TEAS
FROM ESTATES & GARDENS WORLDWIDE

FREE 36-PAGE CATALOG
1-800-747-8327
www.rare-teas.com/teas/teas.html
7577 Lake Street, River Forest, Illinois 60305

HUN HUNAHPU

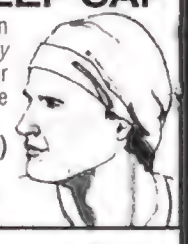
Approx. 9" Tall

Enter the world of the Mayan with this exquisite representation of the Mayan god of maize. Maize was such an important element in the life of the Mayan that it was given a place of honor in the Mayan cosmos. An ideal gift for the explorer in the family or use as a garden ornament. Each piece is finely crafted of cultured stone, designed to give the feel of the original. Learn more! Send check or money order for $39.95 + $5.95 S&H to :

Ancient Stone Co.
P.O. Box 081124
Racine, WI 53408-1124
or call 1-800-817-4794 V/MC
Allow 30 days for delivery.

100% Cotton Knit SLEEP CAP

Holds in up to 40% of body heat the head can lose! Special knit "gives" naturally to fit *any* head (man's or woman's); never constricts or binds . . . caresses your scalp with gentle warmth! Choose snow white or soft blue.



Only $6.95 – 3 for $14.85 (Save $6)
Postpaid if you order promptly!
WITTMANN TEXTILES Dept. 156
Hobe Sound, FL 33475 (Ship. to FLA add tax)

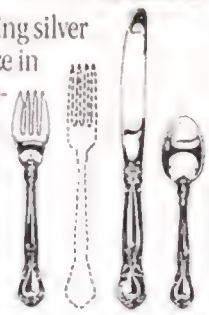
Washable Sheepskin Slippers & Boots

Write or Call:
Aussie Connection
135 NE Third Avenue
Hillsboro, OR 97124
1-800-950-2668
for a FREE Catalog

ANTARCTICA
Expedition cruises aboard Russian icebreakers!
Call for a free color brochure
1-800-368-0077
Since 1980 TravelWild EXPEDITIONS
SM13

PACIFIC AIRCRAFT
THE COLLECTOR'S CHOICE
Makers of Fine Aerosculptures
Hand carved from solid mahogany. Exquisitely hand painted markings and details. • Museum quality • Sizes 16" to 22" • Stand included
• From $99.50
• Over 250 Models
Satisfaction Guaranteed
CALL (800) 950-9944 FOR CATALOG AND ORDERS
14255 N 79th Street, Scottsdale, AZ 85260
Phone (602) 991-1841 • http://www.warplanes.com

HEART KEY
A most romantic token from James Breakell's workshop. Finely detailed pendant on 18" chain. Sterling silver $30. 14k Gold $163. Add $4 handling. Catalog available (800) 767-6411.
J.H. Breakell & Co.
132 Spring St., Dept. SMHK, Newport, RI 02840

MISSING A PIECE OF YOUR PATTERN?®
Replace pieces or add to your sterling silver at up to 75% off retail. We specialize in new and used flatware and hollowware. Over 1,200 patterns in stock. Call or write for a free inventory of your sterling pattern. *(We buy sterling silver, with a careful appraisal for maximum value.)*
Pattern shown: Chantilly by Gorham.

Beverly Bremer
SILVER SHOP
3164 Peachtree Rd., NE, Dept. SM, Atlanta, GA 30305 / Mon.-Sat. 10-5
404 261-4009

traordinary book helps us, and our children, to understand how that transformation came to be. The most outstanding title for 1996.

The Red Heels by Robert D. San Souci, illustrated by Gary Kelley (Dial, $15.99) Drawn from the folklore of Colonial New England, a spellbinding tale of one kindly cobbler and the mysterious young woman who will dance her way into his future and become his wife.

One Christmas Dawn by Candice F. Ransom, illustrated by Peter Fiore (BridgeWater, $14.95) The author draws on her Appalachian roots in this evocation of Christmas Eve, 1917, on the remote hillside of Morning Star Ridge. A girl waits, hoping against hope, for her father's return during the winter "it was almost too cold for Christmas."

Muskrat Will Be Swimming by Cheryl Savageau, illustrated by Robert Hynes (Northland, $14.95) On the edge of town, at the lakeshore, a Native American girl marks the seasons, "fishing in the rain . . . skating with stars thick over my head." As she listens one night to her grandfather's recital of stories from Seneca tradition, she comes to understand that these legends can indeed help a child make her way in the world.

The Blue Monster by Ingrid Ostheeren, illustrated by Christa Unzner (North-South, $15.95) If you can't get a dog for your birthday, wish for a (friendly) monster instead. He'll snarf up the peanut butter and reduce a few chairs to kindling, but he'll also be the best friend a girl could ask for.

The Language of Doves by Rosemary Wells, illustrated by Greg Shed (Dial, $14.99) For 6-year-old Julietta, the dovecote on her grandfather's rooftop in Brooklyn becomes a place for storing memories, for cosseting the birds and for traveling across distance and time.

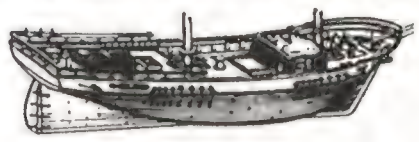
The Bunyans by Audrey Wood, illustrated by David Shannon (Blue Sky, $15.95) Paul's exploits earned him immortality, but what about the rest of the family? An uproarious introduction to his gargantuan wife and children and their triumphs, including the creation of Niagara Falls and Old Faithful, too.

Eleanor written and illustrated by Barbara Cooney (Viking, $15.99) The

BELOW ISSUE PRICE

America's First Commemorative Proof Coin ... $9.95

In 1982, the U.S. Mint issued the George Washington 250th Birthday silver half dollar proof for $12 and it's listed for up to $17. Through this special offer, you can acquire yours for **just $9.95 each, 3 for $28.50, 5 for $47 or 10 for $89 (order #13503).** Add just $2 postage. 30-Day No-Risk Home Examination: Money-Back Guarantee. **To order by credit card call toll-free.** Or send a check or money order to:
International Coins & Currency
62 Ridge St., Box 218, Dept. 3488
Montpelier, Vermont 05601
1-800-451-4463
Serving Collectors for 22 Years 3488

GREAT ENCOURAGEMENT FOR SHIPWRIGHTS!

All gentlemen shipwrights and able bodied modelists who have a mind to provide for themselves amusement and satisfaction through the traditional craft of ship modeling, an opportunity now offers to acquire, through the minimal cost of one Colonial Dollar ($1.00), a catalog of fine and unique ship model kits, plans, books and fittings from the renowned company of Model Expo located in Mt. Pocono in the State of Pennsylvania.

Send $1.00 for a catalog to:
MODEL EXPO, INC.
Dept. SM06 , PO Box 1000, Mt. Pocono, PA 18344
Name _____
Address _____
City _____
State _____ Zip _____

Caldecott-award winner has created an intimate and touching evocation of the future First Lady's lonely childhood and formative adolescent years. This revealing portrait of a remarkable woman is a picture-biography of the highest order.

Life Around the Lake: Embroideries by the Women of Lake Pátzcuaro by Maricel E. Presilla and Gloria Soto (Holt, $16.95) The needlework stitched by the Tarascan women of west-central Mexico has, for centuries, recorded scenes from their way of life—fishing, tending the fields, celebrating festivals. That existence has centered around the lake now threatened by pollution, as this deft amalgam of reportage, folk art and cultural anthropology reveals.

The Wagon by Tony Johnston, illustrated by James E. Ransome (Tambourine, $16) "We had gone to bed slaves. But we woke up free": a taut, unforgettable rendering of one slave family's life on a Southern plantation, in the decade leading up to the Civil War and the Emancipation Proclamation.

Adam Pig's Everything Fun Book written and illustrated by Selina Young (Doubleday, $17.95) For toddlers to kindergartners, a beguiling trove of stories and projects, all centered around a perky piglet who has never once said, "I'm bored, there's nothing to do."

The Better Brown Stories by Allan Ahlberg, illustrated by Fritz Wegner (Viking, $14.99) Pianos gone missing, talking snowmen, rescues at sea: vignettes, loopy and sophisticated, from an imaginary village where life is more than a little surreal. Equally addictive for older children and adults.

Simple Earth Science Experiments with Everyday Materials by Louis V. Loeschnig, illustrated by Frances Zweifel (Sterling, $13.95) Exploring everything from the greenhouse effect to sundials, all in cleverly constructed experiments that require ordinary household supplies: a lifesaver for a rainy day.

Kahtahah by Frances Lackey Paul, illustrated by Rie Muñoz (Alaska Northwest, $13.95) In 1938, the author, teaching Native American children in a Juneau school, created this recital of one young girl's coming of age. The result is a nourishing introduction to the culture

Laps of Luxury
Reward yourself with fitness in the comfort and privacy of your home. The compact pool preferred by health and sports professionals. Superior design. Fastest water current available. Effortless maintenance. 10 year warranty. SwimEx®
For brochure and video call 800-877-7946 • Units start at $22,950

J.C. AYER & CO. CUSTOM JIGSAW PUZZLES
Challenging and Unique
Beautiful hardwood puzzles customized to your request or choose fine art reproductions and originals. For a free catalog, call 617-639-8162, write 6 Ballast Lane, Marblehead, MA 01945 or visit our gallery at http://www.shore.net/~jcayer.

MAINE WINDJAMMING
4 & 6 day smoke-free vacations
Sail in style from Camden, Maine
on beautiful Penobscot Bay
FREE BROCHURE
★ 1-800-469-4635 ★

AUDUBON

The nation's leading authority in the art of John J. Audubon • A large selection of all collectible editions • Inquiries welcome • Call or write for a free brochure
KENYON OPPENHEIMER, INC.
1357 N. Wells St., Chicago, IL 60610
312-642-5300
Est. 1969

SAFARI ENCHANTMENT
Hand-woven bracelet
adjusts to fit him or her
Silver.....$120.
Silver/Gold Knots.....$250.
14K Gold.....$690.
call: 800 807-4147
Sara Jacob Jewellery
Complimentary gift box & postage

TURKEY
GREECE & EGYPT
Quality tours stressing History, Culture, Folklore, & People. Great food and Photography.
Bora Özkök's
Cultural Folk Tours Int'l
9939 Hibert St., Ste. 207
San Diego, CA 92131-1031
Registration #2011417-40
Call for a free brochure:
USA & Canada
1-800-935-8875
619-566-5951

3,200,000 Pieces -
China, Crystal,
Flatware, and Collectibles
62,000 Patterns • Discontinued & Active • Buy & Sell
Call toll-free today for a FREE listing of available pieces in your patterns.
REPLACEMENTS, LTD.
1-800-REPLACE (1-800-737-5223)
1089 Knox Road, PO Box 26029, Dept. SM, Greensboro, NC 27420

Portrait Busts from Photographs
Write or call for brochure:
Regency Portrait Sculpture, Box 105
Venango, Pa 16440 1-814-398-4864

European Beret $10
100% Wool • One Size Fits All
Black, Navy, Brown, Red, Camel, Grey
Check or Credit Card w/Exp. Date.
Add $2 Shipping Per Order
John Helmer • Est. 1921 • (503) 223-4976
969 S.W. Broadway, Dept. S116 • Portland, OR 97205

Publish Your Book
75-year tradition of quality. Subsidy book publisher offers publishing services for books of all types. For *Author's Guide* write or call Dorrance—SM, 643 Smithfield, Pittsburgh, PA 15222 or 1-800-695-9599.

Alaska aboard the DISCOVERY
Seeking an intimate experience with Alaska's wild beauty? Come sail Prince William Sound's scenic waterways.
Multi-day voyages ❖ Small groups ❖ Onboard cabins
Naturalist guided ❖ Glacier & wildlife viewing ❖ Shore hikes
Discovery Voyages, Box 1500, Cordova, AK 99574 800-324-760

AFRICA
Top Quality Safaris to Kenya, Tanzania, & Uganda
INTERNATIONAL EXPEDITIONS INC
WORLD LEADER IN NATURE TRAVEL
1-800-633-4734
ONE ENVIRONS PARK, HELENA, AL 35080

of the Alaskan Tlingit and a series of page-turning episodes for readers young and old.

The Fantastic Drawings of Danielle written and illustrated by Barbara McClintock (Houghton Mifflin, $15.95) Paint what you see and follow your heart: how an aspiring young artist in turn-of-the-century Paris finds her life's work and forges her future.

D'Aulaire's Book of Greek Myths written and illustrated by Ingri and Edgar Parin d'Aulaire (Airplay, 4 cassettes, $18.95) The enduring rendition of Olympian feats and foibles (SMITHSONIAN, November 1994), now on tape (unabridged) and read by Paul Newman, Sidney Poitier, Kathleen Turner and Matthew Broderick. Not to be missed.

When Snow Lay Soft on the Mountain by Patricia Hermes, illustrated by Leslie Baker (Little, Brown, $15.95) A book to be opened time and again: a story of constancy and dreams come true, set against a hard winter when a girl, helping to nurse her father back to health, waits for spring.

Accidents May Happen: Fifty Inventions Discovered by Mistake by Charlotte Foltz Jones, illustrated by John O'Brien (Delacorte, $16.95) Microwave ovens to paper and dynamite, a highly entertaining introduction to the history of technology.

Moonbathing by Liz Rosenberg, illustrated by Stephen Lambert (Harcourt Brace, $14) "You need a clear night" and millions of stars: a moonstruck sojourn to the shore, in search of harbor seals, beach plums and sweet dreams.

Moonbathing
by Liz Rosenberg,
illustrated by Stephen Lambert

Goose down robe
Surround yourself in warm, lightweight elegance. Superblend fabric for easy care. Contrasting piping, shawl collar and roll back cuffs. Fully guaranteed. Order in cream, peach, bluette, salmon, navy, burgundy, or teal.
Sizes XS, S, M, L
Regularly $160
Sale $89
Shipping and handling $6.95

Goose Down Slippers match robes in cream, peach, bluette, salmon, navy, burgundy, or teal.
XS, S, M, L. Regularly $38. Sale $22. Shipping $4.95
☐ Order by phone with MC or VISA, call 415/472-2154.
☐ Use MC, VISA or check for mail orders. CA residents add 7.25% tax
WARM THINGS
180 Paul Dr., Dept. SO /San Rafael, CA. 94903
415/472-2154—Ship within 48 Hrs.—MC/VISA

HAND MADE IN EGYPT
Cartouche
18 K Solid Gold from $150.00
Sterling Silver from $ 40.00
A talisman with your name in Ancient Egyptian Hieroglyphics.
Free info. 1-800-283-4978 Visa • MC • Am-Ex
Or write: Cartouche, Box 309-1, Delmont, PA 15626

DON'T JUST DO SOMETHING.
SIT THERE!
SIT ANYWHERE IN COMFORT. WHEREVER YOU GO, WHATEVER YOU DO, YOU CAN DO IT MORE COMFORTABLY IN ONE OF CRAZY CREEK'S 12 UNIQUE MODELS OF CHAIRS.
CALL TODAY FOR FREE CATALOG
800-331-0304
CRAZY CREEK
Red Lodge, Montana

Authentic Arms & Armour, Battle Gear & Period Clothing
Meticulously detailed, well researched replicas of actual historical pieces – dazzling selection of swords, daggers, axes, spears, helmets and shields. 72 page catalog also features clothing and accessories, jewelry, sculpture, books and more. Covers Roman to Renaissance. Affordable Prices. Satisfaction Guaranteed.
Call Toll-Free
1-800-883-8838
or Fax
1-770-388-0246
Early Claymore
Used during the time of Scotland's fight for independence under William Wallace and Robert the Bruce. This massive two-hand sword measures 59".
#1-MF-156
...$285 ($11.95 s/h)
MUSEUM REPLICAS, LIMITED
Box 840 OMF
Conyers, GA 30207
☐ Send $1.00 for a year's subsciption to our catalog. REFUNDABLE on your first order.
Name
Address
City
State Zip

SERENITY ANGEL PIN BY DENNIS MARON
Wearable Works of Art

Angel is 2" X 2"
18K Gold $480.00
14K Gold $380.00
Sterling Silver $80.00
S&H $5.00
1.800.500.9816 (24 hrs)
Visa, MC, & AMEX
P.O. Box 3196, Long Beach, CA 90803
http://www.dmarondesigns.com
DM designs

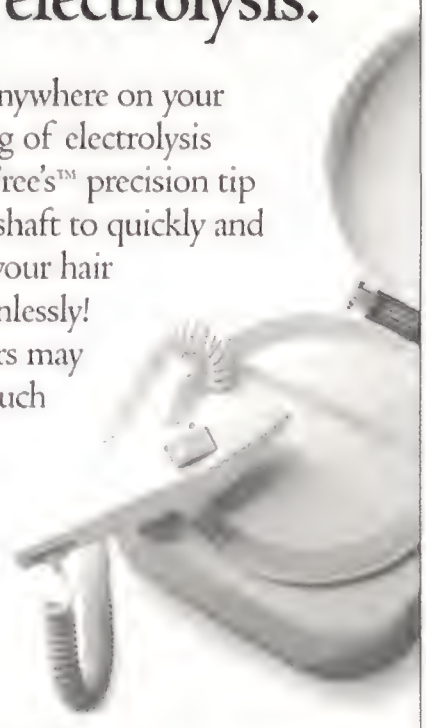
The original
Puzzle Rings
in 14K or tricolor gold
These 4-link magical rings are challenging and fun! Half sizes are available. Send style and size with check or M.O. to Nuray & Co., SM116, P.O. Box 865070, Plano, TX 75086-5070. Texas residents include 8.25% tax.
Call (800) 398-1020 for V/MC.

LONDON FLATS
Best London Locations
35 Cotswold Cottages
Mr. Thomas Moore/The London Connection
PHONE: 801-393-9120; FAX: 801-393-3024

Painless, permanent hair removal. Without needles, without electrolysis.

Finally! A safe, lasting solution to unwanted hair — anywhere on your body. Never again suffer the pain, irritation, or scarring of electrolysis needles. Instead, simply grasp each hair with Forever Free's™ precision tip — its harmless radio frequency travels down the hair shaft to quickly and safely destroy the root. Within 15 seconds, out slides your hair — absolutely painlessly! At first, some hairs may grow back, but much lighter and finer. After two to four treatments they should stop growing altogether — guaranteed!

Gentle enough for eyebrows, underarms, bikini line... anywhere you wish to remove hair safely and painlessly .

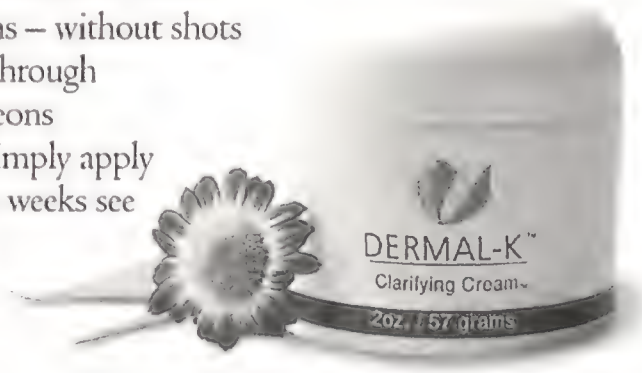


Forever Free™ Permanent Hair Removal System
A4515 $100.

plus $6.25 s+h. Add sales tax for shipments to CA (7.25%) and TN (8.25%).

Get rid of spider veins! Vitamin K clears your skin in just weeks.

This professional-strength (5%) vitamin K cream can eliminate unsightly spider veins – without shots or lasers. Formerly available only through dermatologists and cosmetic surgeons (to minimize post-op bruising), simply apply Dermal K™ twice daily and injust weeks see spider veins disappear – and stay away! Also helps to prevent and heal bruised, damaged, or "tissue thin" skin. 2 oz.



This special dermaceutical formula of vitamin K in an aloe vera base is known as "the cosmetic surgeon's secret." Regular use can eliminate ugly spider veins in just weeks.

Dermal-K™ Vitamin K Cream
A4507 $30.

plus $4.95 s+h. Add sales tax for shipments to CA (7.25%) and TN (8.25%).

Order by phone 24 hours a day! 1-800-520-9924, ext. 1122.

Name

Address *City* *State / Zip*

☐ *Forever Free (A4515)* ☐ *Dermal-K (A4507)* ☐ *Send me a free catalog*

Payment: ☐ *Visa, MC, AMEX, Discover* ☐ *Check* $_____ *Total*

Credit Card Number *Expiration Date*

Authorized Signature *Daytime Phone*

100% Risk-Free GUARANTEE
Money Back Anytime

SelfCare
PRODUCTS FOR HEALTHY LIVING™

Make checks payable to: SelfCare Catalog, 104 Challenger Dr., Portland, TN 37148-1716

Additional Sources

Around the Mall (p. 36)

How Things Fly (Website) http:// www.nasm.edu

"Red, Hot & Blue" (p. 46)

Red, Hot & Blue: A Smithsonian Salute to the American Musical by Amy Henderson and Dwight Blocker Bowers, Smithsonian Institution Press, 1996

American Musical Theatre (second edition) by Gerald Bordman, Oxford University Press, 1992

Broadway by Brooks Atkinson (revised edition), Macmillan, 1974

Hollywood Musicals by Ted Sennett, Harry N. Abrams, 1981

Star-Spangled Rhythm: Voices of Broadway and Hollywood (4 CDs), Smithsonian Recordings, 1-800-863-9943 (available December 1996)

Carl Lumholtz (p. 60)

"My Life of Exploration" by Carl Lumholtz, *Natural History*, May/June 1921

Emil Haury's Prehistory of the American Southwest, edited by J. Jefferson Reid and David E. Doyel, University of Arizona Press, 1992

Handbook of North American Indians, Vol. 9: Southwest, Smithsonian Institution Press, 1979

Santiago Calatrava (p. 76)

Santiago Calatrava by Dennis Sharp, Chapman & Hall (London), 1994

Santiago Calatrava: Structure and Expression by Matilda McQuaid, Museum of Modern Art, 1993

Santiago Calatrava: Secret Sketchbook by Mirko Zardini, Monacelli Press (New York), 1996

Movement, Structure and the Work of Santiago Calatrava by Alexander Tzonis and Liane Lefaivre, Birkhäuser (Boston), 1995

Quilts (p. 95)
Calico and Chintz: Antique Quilts from the Patricia S. Smith Collection by Jeremy Adamson, Renwick Gallery, 1996

French cheese (p. 102)
Fromages: Le Guide Hermé by Sylvie Girard, Editions Hermé (Paris), 1986
The Complete Encyclopedia of French Cheese by Pierre Androuet, Harper & Row, 1973
"From ewe's milk and a bit of mold: a fromage fit for a Charlemagne" by Robert Wernick, SMITHSONIAN, February 1983
Camembert Museum, 10, avenue Général de Gaulle, B.P. 32-61120 Vimoutiers, France, 33 39 30 29 (tel.), 33 67 66 11 (fax)

Keith Robinson (p. 114)
Manual of the flowering plants of Hawaii by Warren L. Wagner, Derral R. Herbst, S. H. Sohmer, University of Hawaii Press, 1990
A Natural History of the Hawaiian Islands, edited by E. Alison Kay, University of Hawaii Press, 1994
Kauai: The Separate Kingdom by Edward Joesting, University of Hawaii Press, 1984

Dog Genome Initiative (p. 126)
The New Complete Newfoundland by Margaret Booth Chern, Howell Book House, Inc. (New York), 1975
The Shepherd's Calendar by James Hogg, Edinburgh University Press, 1995
The Dog Genome Project Homepage (Website) http://mendel.berkeley.edu/dog.html
Eminent Dogs, Dangerous Men: Searching Through Scotland for a Border Collie by Donald McCaig, HarperPerennial, 1992

Know-Nothings (p. 150)
Nativism & Slavery: The Northern Know Nothings & the Politics of the 1850s by Tyler Anbinder, Oxford University Press, 1992
The Know-Nothing Party in Massachusetts: The Rise and Fall of a People's Movement by John R. Mulkern, Northeastern University Press (Boston), 1990
The Political Crisis of the 1850s by Michael F. Holt, John Wiley, 1978
Politics at the Periphery: Third Parties in Two-Party America by J. David Gillespie, University of South Carolina Press (Columbia, South Carolina), 1993

Wake Up Energized!
Get Your Best Night's Sleep Ever When YOU Adjust The Firmness!
FIRM
SOFT
As Heard On Paul Harvey
■ Customize mattress firmness for *each side* with the touch of a button!
■ Unique air support cradles your entire body for better sleep comfort!
■ Reduces uncomfortable pressure points!
■ Call now, and try it in the privacy of your home with our 90-Night In-Home Trial!
SELECT COMFORT
Mail to: Select Comfort Direct Corporation
6105 Trenton Lane N., Minneapolis, MN 55442
© Select Comfort Direct Corp., 1996
FREE Video and Brochure!
1-800-831-1211
Ext. 6844

RISE EASILY FROM ANY CHAIR
UPlift SEAT ASSIST
• portable lifter seat
• lifts up to 80% of your weight
• works on sofas and soft chairs
Daylight Technologies, Inc.
Fax 902-422-0798
Call 1-800-387-0896 free information.
Money back guarantee

PERSONALIZED CARTOUCHE JEWELRY
Your name translated into Egyptian hieroglyphics.
HANDMADE IN EGYPT
Cartouche shown spells 'Charlotte'
18K Gold from $150
Sterling Silver $40
TO ORDER, CALL
1 (800) 447-2504
VISA•MC AMEX•DISCOVER
for FREE BROCHURE Call or Write:
LITTLE EGYPT IMPORTS
P.O. Box 32977
Kansas City, MO 64111

GIVE A LITTLE Tenderness!
USE YOUR MAJOR CREDIT CARD...
TO ORDER IN A FAST, CALL TOLL FREE
1·800·228·9055
PERSONAL WAY...
Send specially-priced Holiday Gift Packages of world-famous Omaha Steaks.® So tender and juicy. Delivered nationwide, unconditionally guaranteed!
Hurry...your gift orders must be received by December 19th for delivery in time for Christmas!
Special Holiday Prices Expire 12/31/96
(EXTRA CHARGE FOR ALASKA/HAWAII/CANADA GIFTS)
Many other great specials available. Act now!
#1135 4 (5 oz.) Filet Mignons,
Save $12.00 Regularly $41.99 NOW $29.99
(PLUS $8.99 SHIPPING)
#515 8 (6 oz.) Filet Mignons,
Save $20.00 Regularly $79.99 NOW $59.99
(PLUS $8.99 SHIPPING)
PREMIUM HEARTLAND QUALITY
OMAHA STEAKS
SINCE 1917
Dept. AF6110
P.O. Box 3300 • Omaha, NE 68103

THE SMITHSONIAN TRAVELER

Call or write for your FREE **Smithsonian Study Tours & Seminars** catalogs, featuring more than 300 educational tours to 250 exciting destinations in the United States and abroad!

Smithsonian Study Tours and Seminars offer unparalleled educational travel opportunities. Enjoy traveling with engaging study leaders and fellow Smithsonian Associates.

INTERNATIONAL TOURS

City Interludes *Throughout the year* Extended stays in some of the world's great cities: London, Paris, Venice, Florence, Hong Kong, Kyoto, Vienna, Berlin, Prague, Istanbul, St. Petersburg and Hamilton (Bermuda).

Countryside Tours *Throughout the year* Relaxing sojourns in France, England, Scotland, Wales, Austria, Switzerland, Italy, Hungary, the Czech Republic and Mexico.

Enchanted Isles of Indonesia *February 5-22* Aboard the *Sea Goddess I*. Visit Bali, Java and Sulawesi.

The Barrier Reef and the Blue Hole: Offshore Wonders of Belize *February 11-19*

Caribbean Voyage: The Grenadines and the Windward and Leeward Islands *February 15-22* Aboard the *Yorktown Clipper.*

Baja Whale Watch: Baja California and the Sea of Cortés *February 15-23* Aboard the *Sea Lion.*

Copper Canyon: Mexico's Sierra Madres *February 15-23*

Red Sea Passage *February 15-28* Aboard the *Regina Renaissance*. Includes Petra, Cairo and the Great Pyramids.

Walks in New Zealand *February 16-March 2* Outdoor adventure.

Birding in Panama *March 1-16*

An Amazon Jungle Adventure (Brazil) *March 3-11*

China Insights *March 4-18* Includes Beijing, Xi'an, Shanghai, Hangzhou, Guilin and Hong Kong.

Natural Wonders Down Under (Australia and New Zealand) *March 4-21*

Insights into India's Heritage *March 7-20*

Sites of Ancient Civilization (Jordan, Syria and Turkey) *March 8-24* Aboard the *Regina Renaissance.*

Wildlife of Costa Rica *March 10-22*

Indian Ocean (Madagascar and the Seychelles) *March 22-April 8* Aboard the *Caledonian Star.*

Spring Splendors in Turkey and Greece *April 3-19* Aboard the *Regina Renaissance.*

Galápagos Islands *April 5-16* Aboard the *Isabela II.*

Treasures of Ancient Egypt *April 7-23* Aboard the *Sunboat IV.*

Botswana, Kalahari Desert and the Okavango Delta *April 11-26*

Tunisia: Legends and Traditions *April 14-26*

Dutch Waterways *April 16-29* Aboard the *Swiss Crystal.*

U.S. & CANADA TOURS

Smithsonian "Anytime" Weekend (Washington, D.C.) Value package includes two nights' accommodations, lunch at a Smithsonian museum, a private tour of the Castle and much more. Choose from four hotels: Loews L'Enfant Plaza, the Mayflower Hotel, the Holiday Inn Capitol and the Channel Inn. Prices begin at $215 and include parking. Ask about our special Inaugural weekend rates!

Natural Florida: Faces and Places of the Caloosahatchee *February 1-9* Explore the Gulf Coast including Sanibel and Captiva.

Birding in South Texas *February 8-16* Visit wildlife refuges in the Rio Grande Valley.

Hiking in Big Bend (Texas) *March 1-9* Enjo spectacular hikes in the Chisos Mountains.

Hawaii's Trails and Reefs *March 16-27* Natural wonders of Kauai, Maui and Hawaii.

New Orleans to St. Francisville *March 30-April 4* Aboard the *American Queen.*

The Riches of the Sonoran Desert (Arizona *April 2-8* Walking tour.

The Colonial South: Jacksonville to Charleston *April 5-12* Aboard the *Nantucket Clipper.*

Arizona Lifestyle and Architecture *April 8*

Charleston: Low-Country Plantations and Gardens *April 12-17*

North Carolina: Historic Homes and Gardens of the Coastal Region *April 13-20*

Explore Yosemite (California) *April 20-25*

The Historic Gardens of Virginia *April 28-May 3*

SMITHSONIAN SEMINARS

Concentrated study of specific topics

American Antique Furniture (Washington D.C.) *December 6-11*

The Making of the Modern World: 1797-19 (Pacific Grove, California) *January 4-8* Trace esthetic and intellectual movements i Paris, Prague and Vienna.

Coral Reef Ecology (St. John, U.S. Virgin Islands) *January 15-20* Snorkel in one of th most serene environments in the Caribbean

Double Fugue: The Color in Music, the Sound in Painting (Washington, D.C.) *January 23-26* Explore relationships betwe music and painting.

Jewish Art and Culture (Washington, D.C. *February 20-23* Includes the U.S. Holocaust Memorial Museum.

A SAMPLING OF LEARNING ADVENTURES FOR SMITHSONIAN ASSOCIATE

FOR INFORMATION ON MORE
HAN 300 UPCOMING PROGRAMS,
ALL (202) 357-4700;
OR WRITE TO
HE SMITHSONIAN ASSOCIATES
RC 702, WASHINGTON, DC 20560

ntering the Atomic Age: The Manhattan
roject (Los Alamos, New Mexico) *April 1-6*

xploring Southern Culture (Oxford,
ississippi) *April 6-10*

ivil War: Vicksburg (Mississippi)
pril 9-13

mpressionism to Modernism in Art,
terature and Music (Washington, D.C.)
pril 10-13

hinese Ceramics (Washington, D.C.)
pril 16-20

esigning Your Garden (Washington, D.C.)
pril 24-27

ew Orleans Jazz and Heritage Festival
pril 30-May 4

ODYSSEY TOURS

oderately priced tours with several
eparture dates in 1997

atural Wonders of Costa Rica 9-night tours
January, February and October

gacy of the Inca (Peru) 9-night tours in
nuary, March, April and September

gypt and the Nile Cruise 10-night tours in
bruary, March, April and October

rt and Culture in Italy 14-night tours in
bruary, June, September and October

uth Africa: Land of Hope and Promise
-night tours in *March, April, May and*
ptember

e Isles of Malta and Sicily
-night tours in *March, April and October*

stern and Central Europe (Germany,
land and the Czech Republic) 15-night tours
April, June, September and October

d World Europe (Germany, the Czech
public, Hungary and Austria) 14-night tours
April, July, September and October

r an Odyssey brochure, call 1-800-932-8287.

The Best Travel Clothing in the World

Tilley Endurables
Smart-looking, classically styled, "*endurable*" **travel clothing.** ***Secret pockets, security pockets,*** and ***"Give 'em hell!"*** washing instructions. And, of course, the 'Tilley' – ***the best outdoor hat in the world.*** **Free catalogue.**

CONTACT US ON THE INTERNET
http://www.tilley.com
1-800-884-3086
300 LANGNER RD., WEST SENECA, NY
INTERESTING STORES IN TORONTO, MONTREAL & VANCOUVER

COMPLETE SETS OF HIGH QUALITY REPRINTS OF THE LITHOGRAPHS FROM
REPORTS OF EXPLORATIONS & SURVEYS TO ASCERTAIN THE MOST PRACTICABLE...ROUTE FOR A RAILROAD FROM THE MISSISSIPPI RIVER TO THE PACIFIC OCEAN 1853-1854
SETS OF CAMPSITE & TRAIL SCENES, INDIANS, BOTANICAL, ZOOLOGICAL & GEOLOGICAL SUBJECTS
CATALOG 2.00 (REBATE W/ORDER) MONTGOMERY-WENDLER RARE COLLECTIONS P.O.BOX 290613 SAN ANTONIO,TX 78280

DARWIN™
RING OF FIRE ENTERPRISES
Box 3793-SM
Santa Cruz, CA 95063
1-800-676-1445
(408) 425-7675
$7.95ea. ppd & 7.25% tax, (Calif.)
FAX: (408) 458-2420
www.rof.com, www.backporch.com, rof@backporch.com

SMITHSONIAN (issn 0037-7333) is published monthly by the Smithsonian Associates, 900 Jefferson Drive, Washington, DC 20560. © Smithsonian Institution 1996. All rights reserved. Reproduction in whole or in part without permission is prohibited. Editorial offices are at 900 Jefferson Drive, Washington, DC 20560. (202-786-2900). Advertising and circulation offices are at 420 Lexington Ave., New York, NY 10170. (212-490-2510) SUBSCRIPTION PRICES: United States and possessions: $24 a year payable in U.S. funds. Canada and all other countries: add $13 (U.S. funds) for each year. 80 percent of dues is designated for magazine subscriptions. Current issue price is $3 (U.S. funds). Back issue price is $5 (U.S. funds). Periodical postage paid at Washington, DC and additional mailing offices. MAILING LISTS: From time to time we make our subscriber list available to companies that sell goods and services by mail that we believe would interest our readers. If you would rather not receive such mailings, please send your current mailing label, or an exact copy, to: Smithsonian, Mail Preference Service, P.O. Box 420311, Palm Coast, FL 32142-0311. SUBSCRIPTION SERVICE: Should you wish to change your address, or order new subscriptions, you can do so by writing Smithsonian, P.O. Box 420311, Palm Coast, FL 32142-0311, or by calling 1-800-766-2149. POSTMASTER: Send address changes to Smithsonian, P.O. Box 420312, Palm Coast, FL 32142-0312. Printed in the USA.

COUNTRY WALKERS
Worldwide Walking Vacations
◆ *Small groups* ◆ *Expert guides*
◆ *Fine hotels and cuisine*
◆ *Active, educational itineraries*
Call for a catalog 800-464-9255
P.O. Box 180SM, Waterbury, Vermont 05676

Telluride
COLORADO
Family-run, earth-friendly property management. Slope-side or in the Historic District.
ALPINE LODGING & RENTALS
800-3-POWPOW
Condominiums Private Homes Lodge Rooms Concierge

DALLAS PRIDGEN JEWELRY
One at a time, by hand

"Pigs" Bracelet,
14K Gold $595, Sterling $165, Pin or Pendant 14K Gold $95, Sterling $35. Visa/MC/Amex
Unconditionally Guaranteed. **1-800-477-1856**
PO Box 147, Chapel Hill, NC 27514 (919) 933-5759

Adopt an Animal $39

A Terrific Gift!
San Francisco Zoo
800-264-6600

BLISS ANGEL™

	Pins, Pendants	Earrings
GRACE Sterling Silver	$38.	$58.
BEAUTY 14k Yellow Gold	$118.	$198.
ELEGANCE 14k Yellow & White Gold	$165.	$275.

actual size
Gift Boxed / Satisfaction Guaranteed / S&H $4.50
MC • VISA • AMEX • EXP/NOVUS • CHECK **1-800-897-6538**
Damien Arts / 18880 Meadowlark Court, Penn Valley, CA 95946

Do your heels ache?

Why suffer another day with sore heels **(and even heel spur aches)** when **Cushi-Heel Pillow** gives you quick relief **while you walk or run?** Developed by an athlete, who suffered just as you do, and who couldn't find anything which helped. His U.S. patented (No. 3,984,926) pads are exactly the right shape, density and compression to cushion the weight your heels must bear. Mailmen, housewives, waitresses, sales people, nurses, bartenders, school teachers, people who *must* be on their feet all swear by them. Joggers, tennis, golf, basketball and racquetball players find they can now play in comfort even with **heel spur** problems. **If not satisfied, return within 10 days for full and prompt refund.**

Calderon Products. Inc., Dept. 538
2855 W. Market Street, P.O. Box 5454
Akron, OH 44334 • (330) 864-8100

☐ One pair Cushi Heel Pillows **$6.55**
☐ Save! Two pairs for only **$12.95**
☐ Save more! Three pairs for only **$17.95**
FOR SHIPPING & HANDLING PLEASE ADD $1.95
Fast delivery! Shipped by First Class Mail.
Enclosed: ☐ check ☐ money order ☐ cash
Visa - MasterCard holder (TO ORDER ONLY)
Call Toll Free 1-800-655-1343
Weekdays 9 AM - 5 PM EST
Ohio residents add 5.75% sales tax.

Specify shoe size:
Men's shoe size _____ Women's shoe size _____
Name _____
Address _____
City _____
State _____ Zip _____

By Bruce Watson

When your toast starts talking to you, the Info Age has hit home

Our house is not old, but it leaks. Several windows need caulking. Doors are hard to close. Still, we assumed mere water was leaking in until we learned of a more dangerous seepage.

We were at the dinner table. Our daughter Elena was eating her peas, one by one. Suddenly she stopped. "The capital of Delaware is Dover," she said. "Exactly what do you mean by that?" I asked. She began to chant, "The capital of Delaware is Dover! The capital of Delaware is Dover!"

Elena is 4. She knows no more about the capital of Delaware than we do. We hadn't told her. Neither had her preschool teacher.

We knew someday computers would be linked to phones, TVs, toasters. We'll touch a button on the compu-toaster and *beeeeep!* along with our toast, we'll be served statistics on per capita toast consumption, the fat content of butter and other vital data. But although we knew the Info-future was coming, we didn't realize it had already begun to leak into our home.

A week later, my wife went to the laundry basket. Lying there among the sheets was the 1990 census for the state of New York. "Did you put this here?" she asked. I didn't. Neither did our daughter, the mailman or the dog. The data had just leaked in. Like all random information, it came from nowhere, meant nothing and made us feel stupid.

"Bet you didn't know the population of Poughkeepsie is 28,844," I said. "Will this be on the test?" my wife asked.

The next week, I opened the freezer. Out tumbled an encyclopedia—"Volume VII, Egret to Fond du Lac." We went away and forgot to close a window; when we came back, the living room was littered with Civil War histories.

I grew up believing that facts were our friends. How could information hurt us? "The informed citizen is the cornerstone of democracy," Jefferson said. Or *was* it Jefferson? Willa Cather, maybe? Mick Jagger? Whoever said it believed that information was truth, but in our house information was becoming a pest. Random facts were turning up in our food, our dreams, our conversations. We had to do something.

The next day we caulked all windows and doors with Info-block, a silicon-based fact sealant. Info-block was both info-proof and noise-proof. When we threw our TV out the second-floor window, it crashed on the driveway without a sound. For a few blissful weeks, Info-block kept our home fact-free.

Then one morning I found an envelope in the microwave. "Are You Keeping Pace With Today's Info Age?" it asked. We read the letter inside. If we joined the Fact-of-the-Month Club, it said, we'd receive the World's Top 150 Facts for only $1.95. Then each month, we'd get more Fun Facts. We'd learn the average speed of the Galápagos tortoise, the atomic weight of tungsten, the National League RBI leader in 1947.

How had the envelope found its way into our microwave? And what would be next—actuarial tables in the alcove? Stray spreadsheets in the study?

That night at dinner Elena said, "The 1947 National League RBI leader was Johnny Mize." Then, before we could even gasp, she asked, "What's an RBI?"

Our Info-seal had broken. We were defenseless against the constant barrage of facts that define modern life. We tried rubbing Info-repellent all over our bodies, but the data still swarmed around us. We sprayed the house with Fact-B-Gone, the ignorance-based spray so many people are using these days. For a few hours, no idle facts occurred to us. Then my wife said, "Hey, bet you didn't know that the G.D.P. of Cameroon is $8 billion." I ran from the room screaming a list of U.S. Vice Presidents, Adams to Gore.

When the data settled, I tried to remain calm. "Maybe we could live with our leaks," I said. All our friends were awash in trivia. We knew people who couldn't name their Congressman, but they knew the first name of every last goalie in the National Hockey League. Their kids weren't sure which state they lived in, but they could sing whale songs till the cows came home. And somehow they made it through the day.

We were informed citizens. Surely we could pick and choose the drivel that dribbled into our home. Then one morning, I was awakened by a low buzz. Tracing it to the bathroom, I found my electric razor humming "That Old Devil Moon." That did it.

Before we'd jettisoned the TV, we'd seen the commercials. For only $1,995 we could put a laser-equipped Fact Zapper on the roof to shoot down all incoming data. We couldn't remember Fact Zapper's 800 number, but we waited a moment and it came to us. We called. Within a week, we were armed for the Information Wars. Now, every few minutes we hear a *zaaaaap!* Another fact meets its maker.

Shielded from the data-glutted world, we now live in a Garden of Eden. Not a drop of crude information leaks in. We have forgotten everything we ever knew about Delaware, Vice Presidents and the G.D.P. of Cameroon. We got a scare one day when Elena blurted out the capital of Montana, but it turned out she had learned it in preschool. Still, we were skittish until we heard *zaaaaap!* "It's all right," I said. "We're safe." Once upon a time, ignorance was bliss, but in the Info Age, it's self-defense.

Thank hevinz fur inglish teechurs lik theez heer wons.

Otherwise we could be a nation divided by a common language.

These educators have pioneered methods of teaching that are not only relevant, involving, and fun, they teach students to respect the importance and power of English.

Writing and researching a detailed county history, creating and marketing a fine arts calendar, and producing their own morning newscast are just some of the ways these teachers have taught their students to appreciate the English language.

For their innovative ways of teaching respect for one of our most important common bonds, State Farm has presented each of these inventive educators with our Good Neighbor Award, and made $5,000 donations to the educational institutions of their choice.

STATE FARM INSURANCE

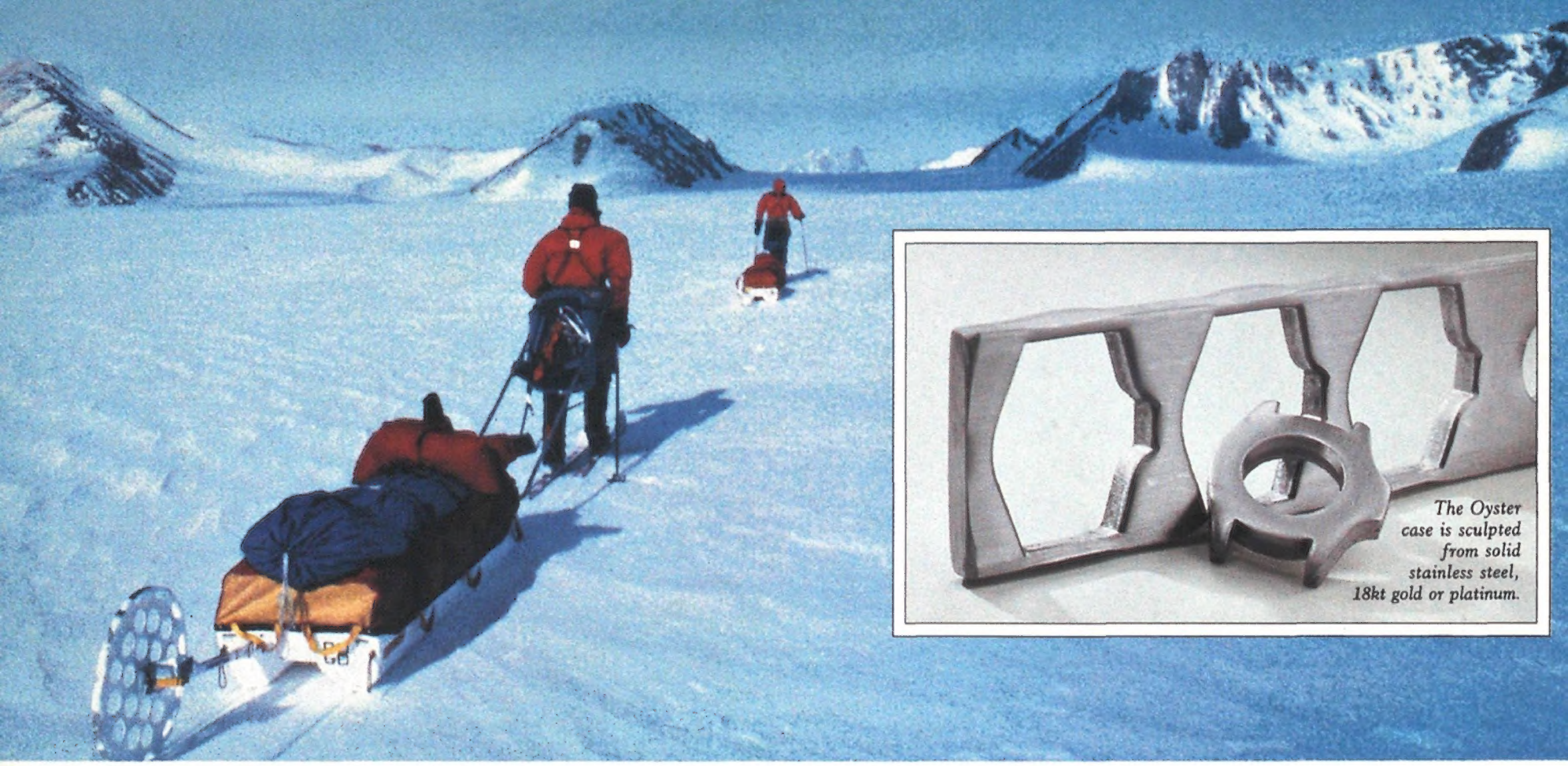
GOOD NEIGHBOR AWARD

STATE FARM INSURANCE COMPANIES
Home Offices: Bloomington, Illinois

http://www.statefarm.com

Back row: Pamela Schmidt, Shreveport, Louisiana; Penny Ferguson, Maryville, Tennessee; Linda Fisk, West Palm Beach, Florida.
Middle row: Judy Bebelaar, San Francisco, California; Thomas Porton, Bronx, New York; Barbara Garrison, San Diego, California.
Front row: Maureen White, Haverhill, Massachusetts. Absent: Hood Frazier, Charlottesville, Virginia.

The Good Neighbor Award was developed in cooperation with the National Council of Teachers of English.



The Swan South Pole Expedition depended on Rolex timepieces to navigate their route.

"Given the extreme cold, if my Rolex hadn't been reliable, I'd have been lost." *Robert Swan*

It takes more than 150 operations just to create the distinctive Rolex Oyster case which is sculpted from solid metal, using up to 60 tons of pressure. Each rugged yet elegant case has been forged, machined, polished and repolished.

As a final step in production, the back of the Oyster case is shut with a special Rolex tool designed to engage the finely threaded knurling of the case back and tighten it until a pressure-proof seal is achieved.

The synthetic sapphire crystal, patented winding crown and Oyster case combine to protect the Perpetual movement under even the harsh conditions of the Antarctic.

All of which explains why Robert Swan depends on the Rolex Oyster Perpetual in all his endeavors.

ROLEX

Rolex Oyster Perpetual Explorer II Chronometer in stainless steel with matching Fliplock bracelet.
Write for brochure. Rolex Watch U.S.A., Inc., Dept. 342, Rolex Building, 665 Fifth Avenue, New York, N.Y. 10022-5383.
Rolex, ♛, Oyster Perpetual, Explorer, Oyster and Fliplock are trademarks.